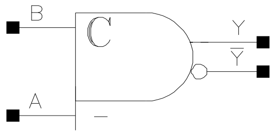
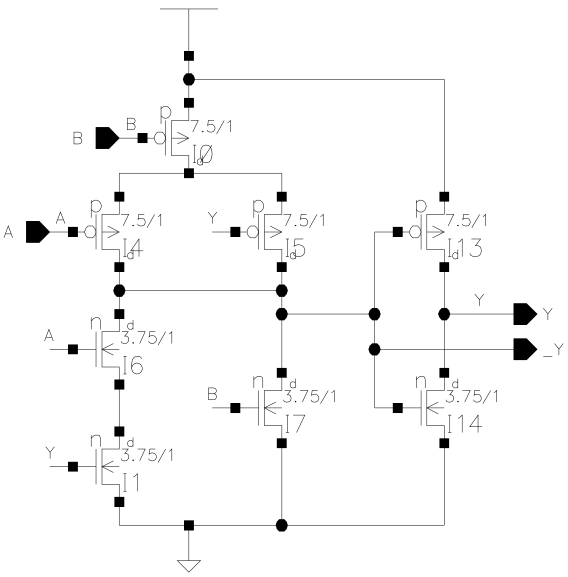
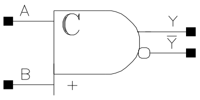

B
C
Y
$\overline{Y}$
A
–


B
p
7.5/1
I0
A
I4
Y
I5
I13
Y
_Y
n
3.75/1
I6
I1
I7
I14
d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C
Y
$\overline{Y}$
B
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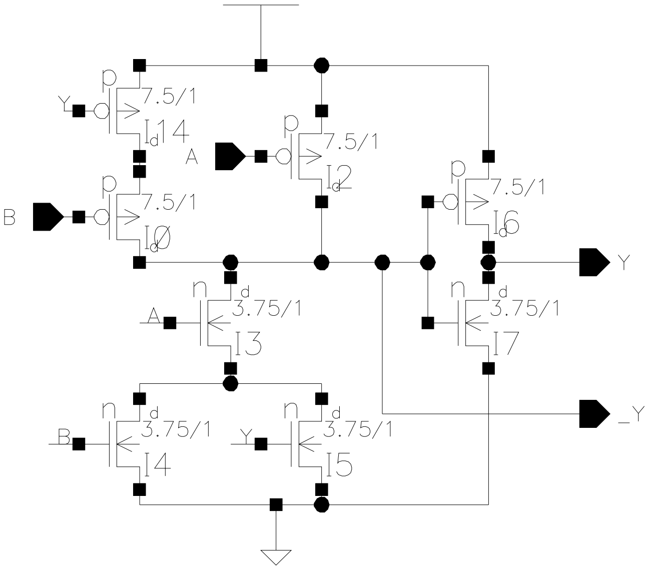
p
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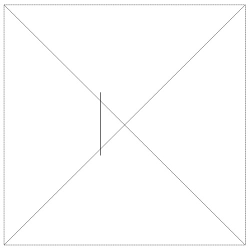
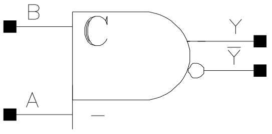
Y
I14
d
p
7.5/1
B
I0
d
p
7.5/1
A
I2
d
p
7.5/1
I6
d
Y
n
d
3.75/1
A
I3
n
d
3.75/1
I7
_Y
n
d
3.75/1
B
I4
n
d
3.75/1
Y
I5

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C
Y
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A
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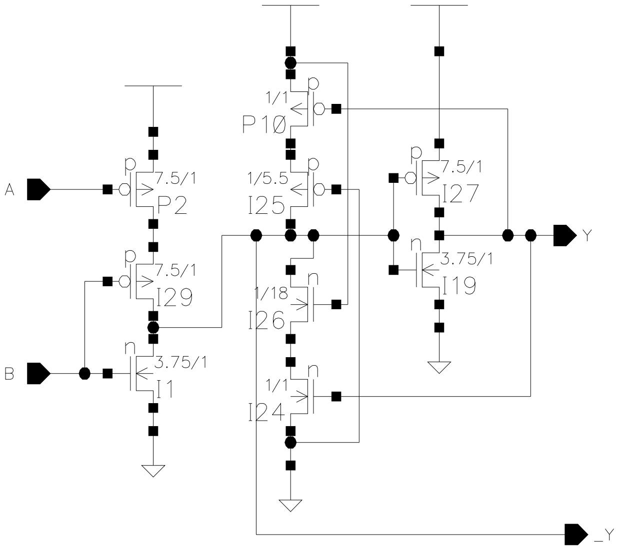
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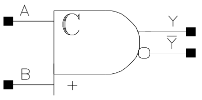
B
p
7.5/1
P2
p
7.5/1
I29
n
3.75/1
I1
p
1/1
P10
p
1/5.5
I25
n
1/18
I26
n
1/1
I24
p
7.5/1
I27
n
3.75/1
I19
Y
_Y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B
C
Y
$\overline{Y}$
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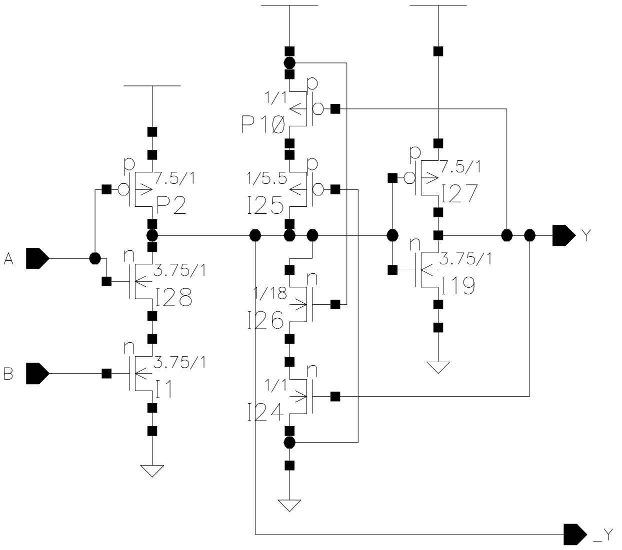
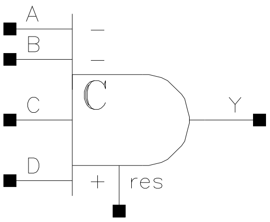

p
7.5/1
P2
n
3.75/1
I28
n
3.75/1
I1
A
B
p
1/1
P10
p
1/5.5
I25
n
1/18
I26
n
1/1
I24
p
7.5/1
I27
n
3.75/1
I19
Y
_Y


A
B
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C
C
Y
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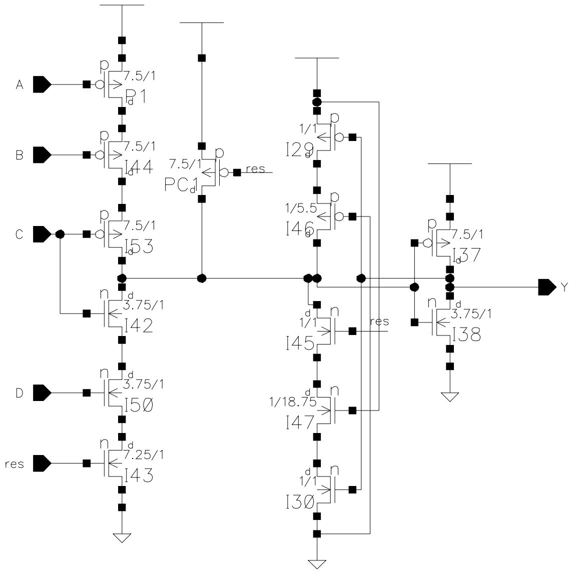
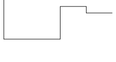
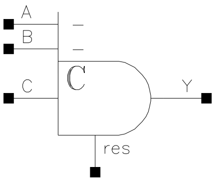
res


A
B
C
D
res
Y
p
7.5/1
P1
7.5/1
I44
7.5/1
I53
n
3.75/1
I42
3.75/1
I50
7.25/1
I43
7.5/1
PC1
res
1/1
I29
1/5.5
I46
1/1
I45
res
1/18.75
I47
1/1
I30
7.5/1
I37
3.75/1
I38

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B
C
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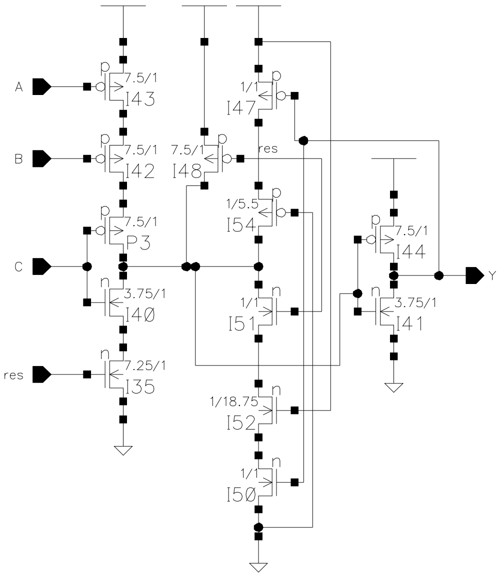
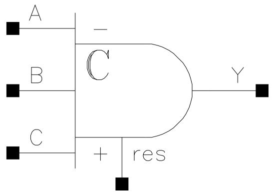
Y
res


A
B
C
res
Y
p
7.5/1
I43
p
7.5/1
I42
p
7.5/1
P3
n
3.75/1
I40
n
7.25/1
I35
7.5/1
p
I48
res
1/1
p
I47
1/5.5
p
I54
1/1
n
I51
1/18.75
n
I52
1/1
n
I50
p
7.5/1
I44
n
3.75/1
I41


A
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B
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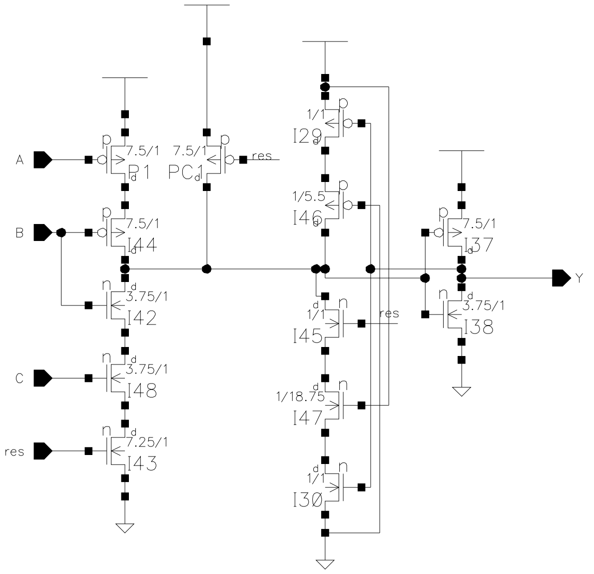
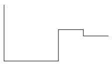
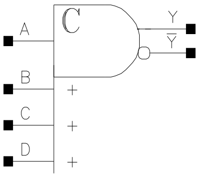
Y
C
+
res


A
B
C
res
p
7.5/1
P1
7.5/1
PC1
res
p
7.5/1
I44
n
3.75/1
I42
n
3.75/1
I48
n
7.25/1
I43
1/1
I29
1/5.5
I46
1/1
I45
res
1/18.75
I47
1/1
I30
p
7.5/1
I37
n
3.75/1
I38
Y

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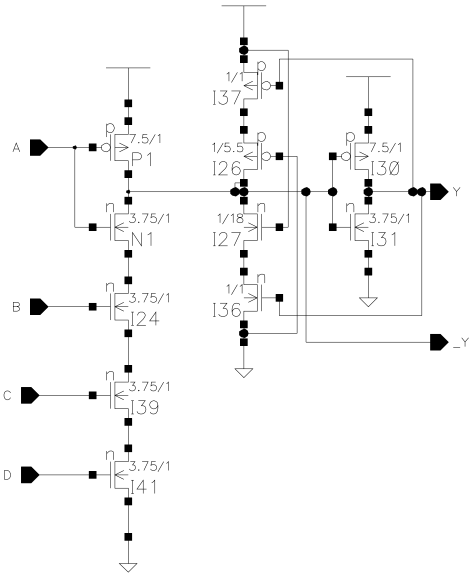
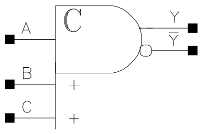

A
B
C
D
Y
_Y
p
7.5/1
P1
n
3.75/1
N1
n
3.75/1
I24
n
3.75/1
I39
n
3.75/1
I41
1/1
p
I37
1/5.5
p
I26
1/18
n
I27
1/1
n
I36
p
7.5/1
I30
n
3.75/1
I31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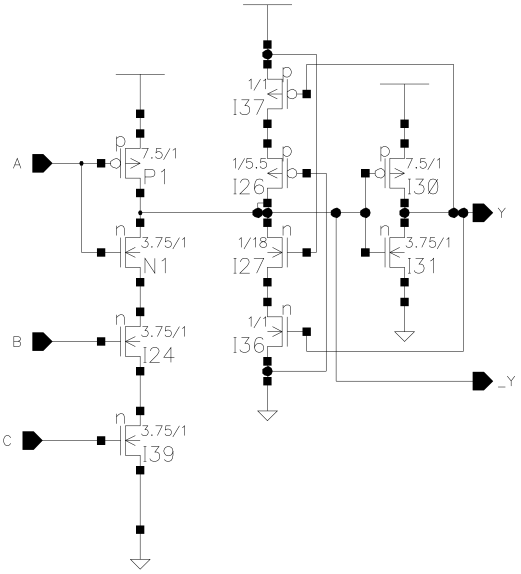
A
B
C
p
7.5/1
P1
n
3.75/1
N1
n
3.75/1
I24
n
3.75/1
I39
1/1
p
I37
1/5.5
p
I26
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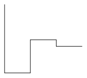
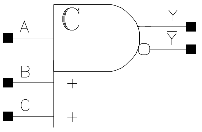
n
3.75/1
I31
Y
_Y




C
A
B
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Y
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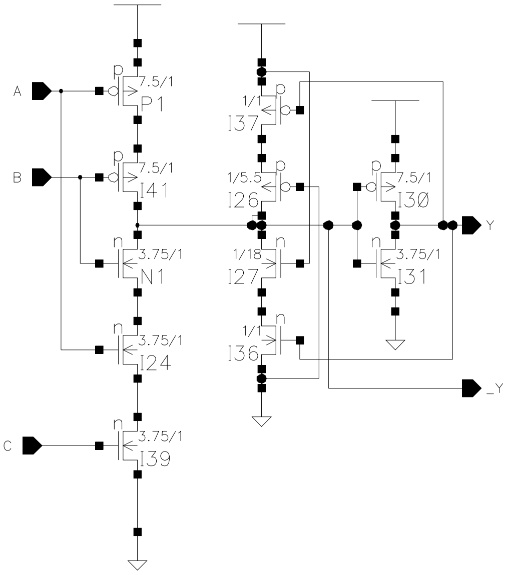
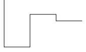
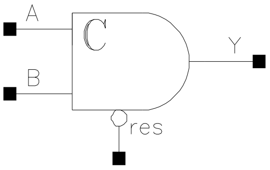
+


A
B
C
Y
_Y
p
7.5/1
P1
p
7.5/1
I41
n
3.75/1
N1
n
3.75/1
I24
n
3.75/1
I39
1/1
p
I37
1/5.5
p
I26
1/18
n
I27
1/1
n
I36
p
7.5/1
I30
n
3.75/1
I31

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B
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Y
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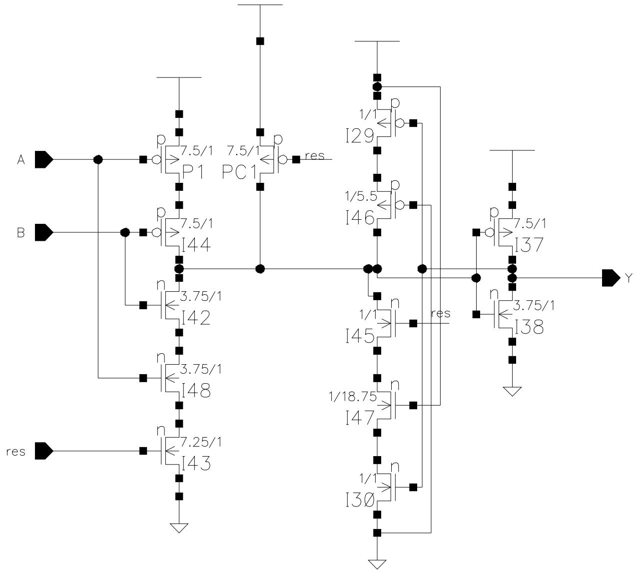
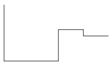
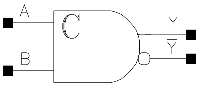

A
B
res
Y
p
7.5/1
P1
7.5/1
PC1
res
7.5/1
I44
n
3.75/1
I42
3.75/1
I48
7.25/1
I43
1/1
I29
1/5.5
I46
1/1
I45
res
1/18.75
I47
1/1
I30
7.5/1
I37
3.75/1
I38

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B
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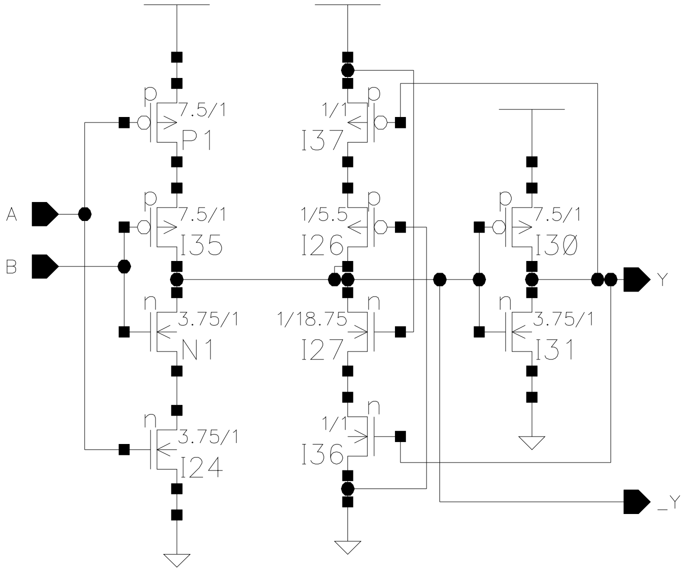
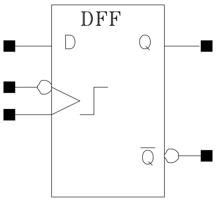
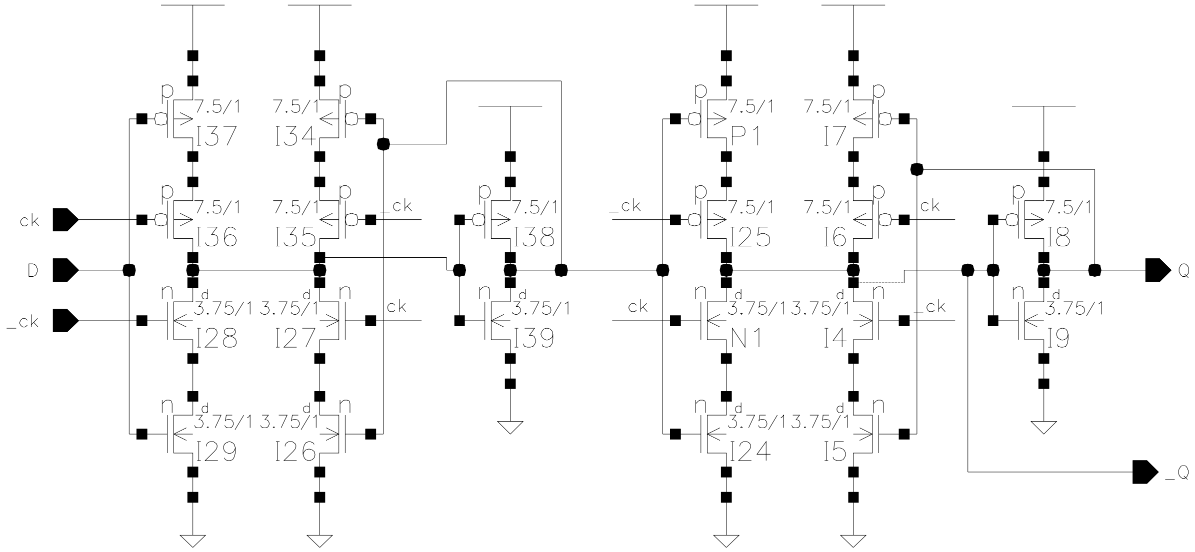
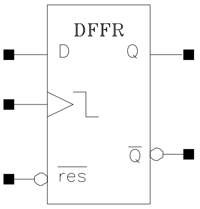
Y
$\overline{Y}$


p
7.5/1
P1
p
1/1
I37
p
7.5/1
I35
p
1/5.5
I26
p
7.5/1
I30
A
B
Y
n
3.75/1
N1
n
1/18.75
I27
n
3.75/1
I31
n
3.75/1
I24
n
1/1
I36
_Y


DFF
D
Q
Q̄


ck
D
_ck
p
7.5/1
I37
I34
I36
I35
_ck
ck
n
d
3.75/1
I28
I27
I29
I26
I38
I39
P1
I7
I25
I6
N1
I4
I24
I5
I8
I9
Q
_Q


DFFR
D
Q
Q̅
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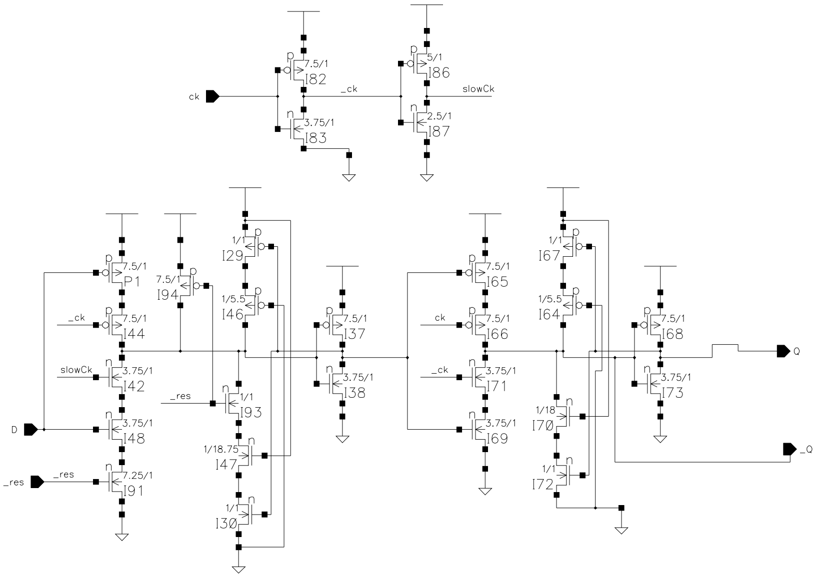
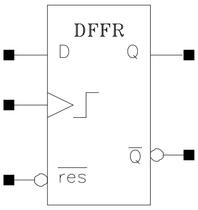
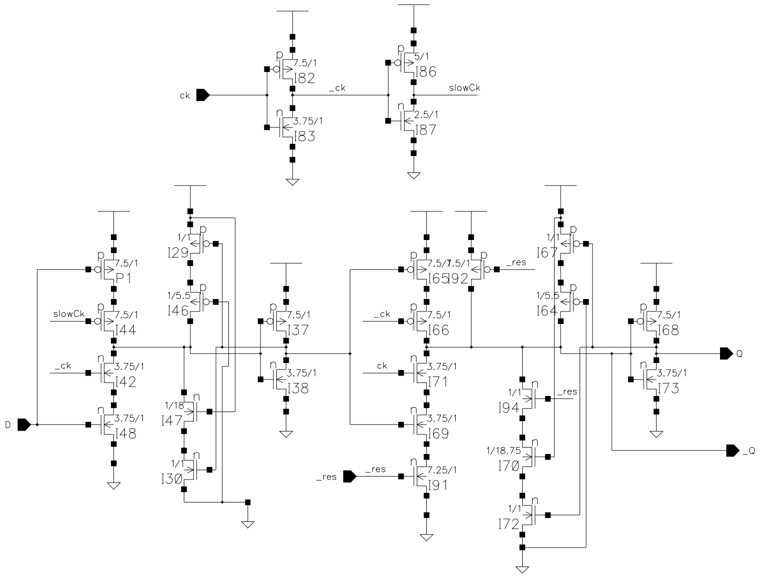
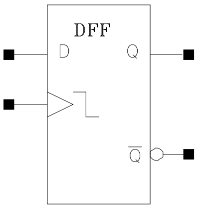

ck
_ck
slowCk
p 7.5/1 I82
n 3.75/1 I83
p 5/1 I86
n 2.5/1 I87
p 7.5/1 P1
p 7.5/1 I44
_ck
slowCk
n 3.75/1 I42
D
n 3.75/1 I48
_res
_res
n 7.25/1 I91
7.5/1 p I94
1/1 p I29
1/5.5 p I46
_res
n 1/1 I93
1/18.75 n I47
1/1 n I30
p 7.5/1 I37
n 3.75/1 I38
p 7.5/1 I65
ck
p 7.5/1 I66
_ck
n 3.75/1 I71
n 3.75/1 I69
1/1 p I67
1/5.5 p I64
1/18 n I70
1/1 n I72
p 7.5/1 I68
n 3.75/1 I73
Q
_Q


DFFR
D
Q
res
Q


ck
_ck
slowCk
p
7.5/1
I82
n
3.75/1
I83
p
5/1
I86
n
2.5/1
I87
D
p
7.5/1
P1
slowCk
p
7.5/1
I44
_ck
n
3.75/1
I42
n
3.75/1
I48
p
1/1
I29
p
1/5.5
I46
n
1/18
I47
n
1/1
I30
p
7.5/1
I37
n
3.75/1
I38
p
7.5/1
I65
p
7.5/1
I92
_res
_ck
p
7.5/1
I66
ck
n
3.75/1
I71
n
3.75/1
I69
_res
_res
n
7.25/1
I91
p
1/1
I67
p
1/5.5
I64
n
1/1
I94
_res
n
1/18.75
I70
n
1/1
I72
p
7.5/1
I68
n
3.75/1
I73
Q
_Q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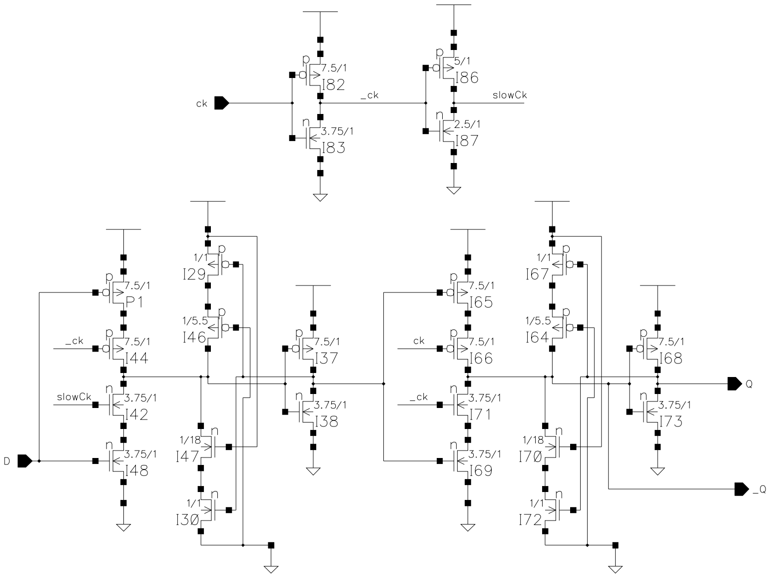
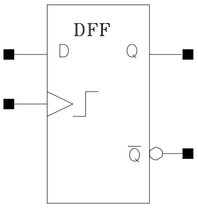
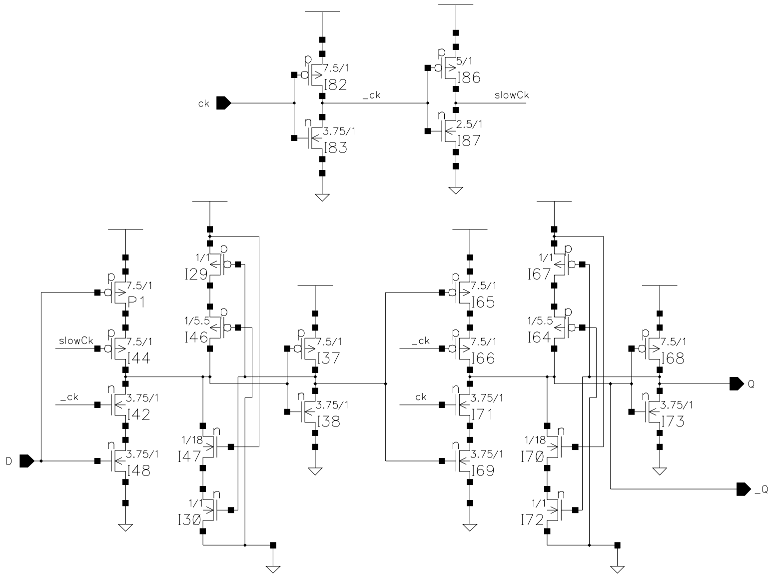
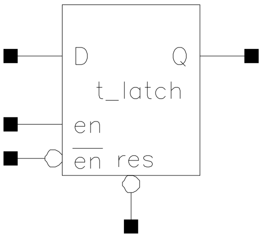
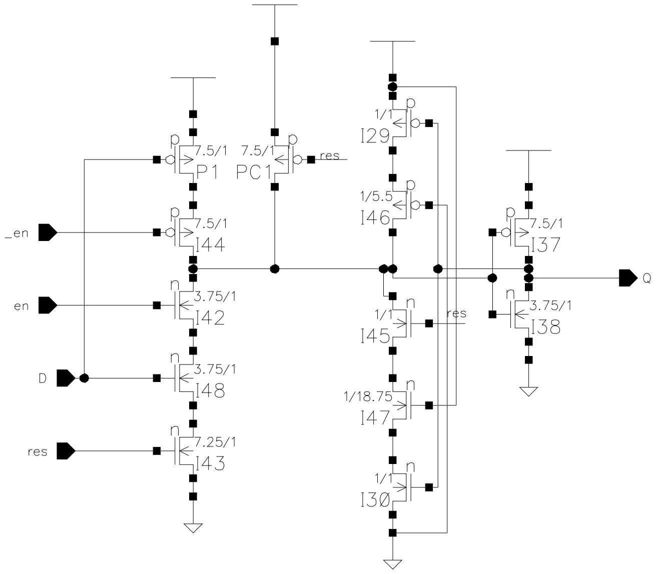
D
Q
Q̄

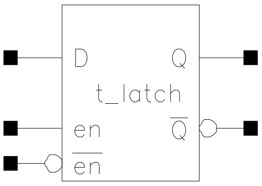

ck
_ck
slowCk
p 7.5/1 I82
n 3.75/1 I83
p 5/1 I86
n 2.5/1 I87
p 7.5/1 P1
p 7.5/1 I44
n 3.75/1 I42
n 3.75/1 I48
1/1 p I29
1/5.5 p I46
1/18 n I47
1/1 n I30
p 7.5/1 I37
n 3.75/1 I38
p 7.5/1 I65
p 7.5/1 I66
n 3.75/1 I71
n 3.75/1 I69
1/1 p I67
1/5.5 p I64
1/18 n I70
1/1 n I72
p 7.5/1 I68
n 3.75/1 I73
D
Q
_Q

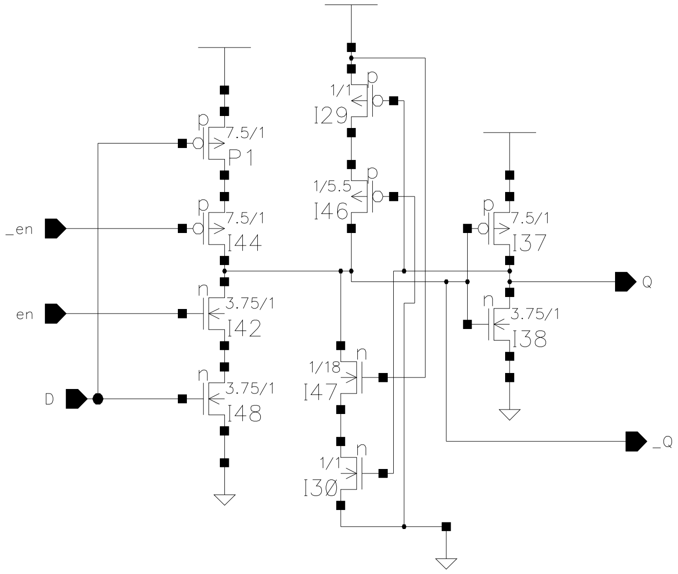

DFF
D
Q
$\overline{Q}$

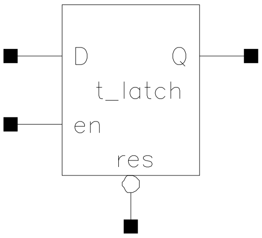

ck
_ck
slowCk
7.5/1
I82
3.75/1
I83
5/1
I86
2.5/1
I87
D
P1
slowCk
I44
_ck
I42
I48
1/1
I29
1/5.5
I46
1/18
I47
1/1
I30
I37
I38
I65
_ck
I66
ck
I71
I69
1/1
I67
1/5.5
I64
1/18
I70
1/1
I72
I68
I73
Q
_Q


D
Q
t_latch
en
$\overline{\text{en}}$ res


p
7.5/1
P1
p
7.5/1
PC1
res
p
7.5/1
I44
_en
n
3.75/1
I42
en
n
3.75/1
I48
D
n
7.25/1
I43
res
1/1
p
I29
1/5.5
p
I46
1/1
n
I45
res
1/18.75
n
I47
1/1
n
I30
p
7.5/1
I37
n
3.75/1
I38
Q


D
Q
t_latch
en
$\overline{Q}$
$\overline{en}$


_en
en
D
p
7.5/1
P1
p
7.5/1
I44
n
3.75/1
I42
n
3.75/1
I48
1/1
p
I29
1/5.5
p
I46
1/18
n
I47
1/1
n
I30
p
7.5/1
I37
n
3.75/1
I38
Q
_Q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en
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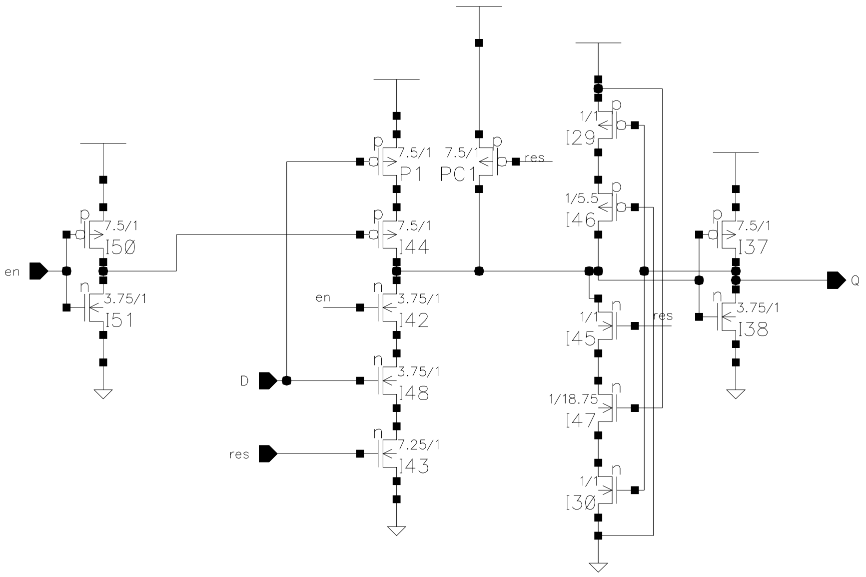
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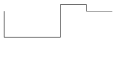
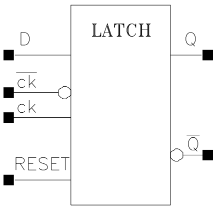
en
n
3.75/1
I51
p
7.5/1
P1
p
7.5/1
I44
n
en
3.75/1
I42
D
n
3.75/1
I48
res
n
7.25/1
I43
7.5/1
p
PC1
res
1/1
p
I29
1/5.5
p
I46
1/1
n
I45
res
1/18.75
n
I47
1/1
n
I30
p
7.5/1
I37
n
3.75/1
I38
Q

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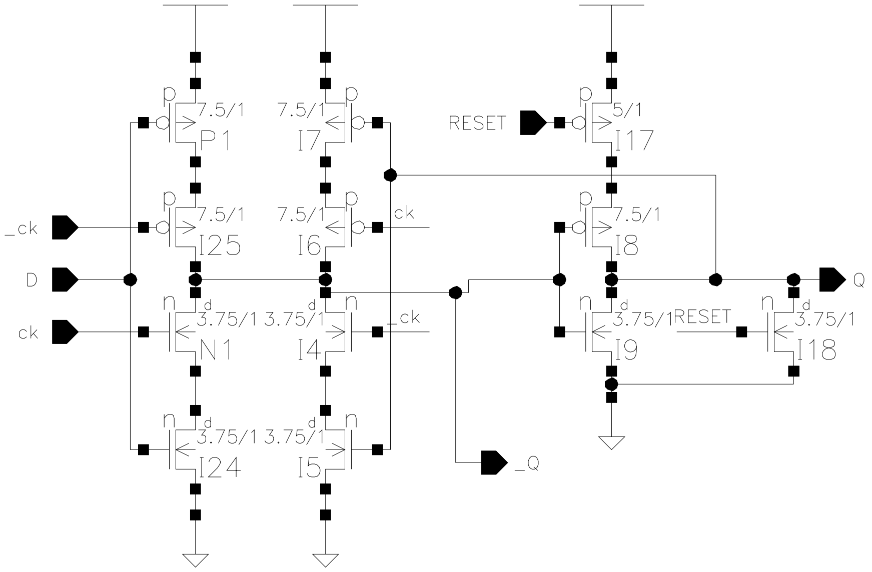
RESET
Q
$\overline{Q}$


_ck
D
ck
RESET
Q
_Q
p
n
d
7.5/1
P1
7.5/1
I7
5/1
I17
7.5/1
I25
7.5/1
I6
ck
7.5/1
I8
3.75/1
N1
3.75/1
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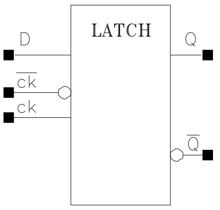
3.75/1
I9
RESET
3.75/1
I18
3.75/1
I24
3.75/1
I5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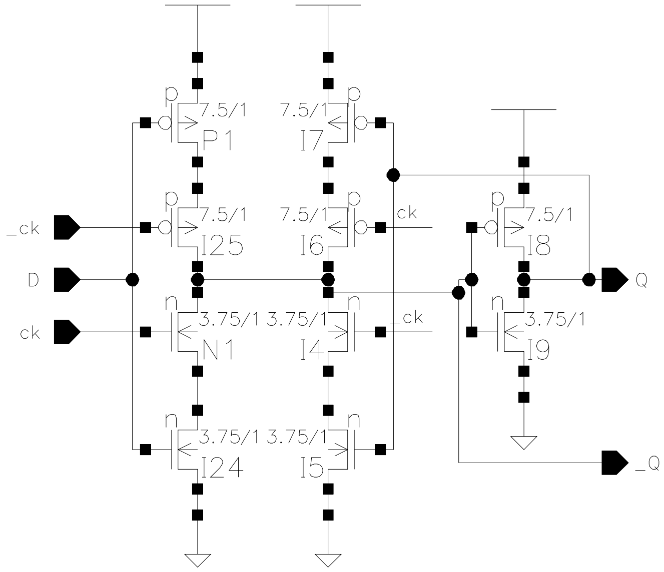
_ck
D
ck
p
7.5/1
P1
I7
I25
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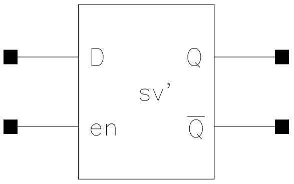
3.75/1
N1
I4
_ck
I24
I5
I8
I9
Q
_Q


D
Q
sv'
en
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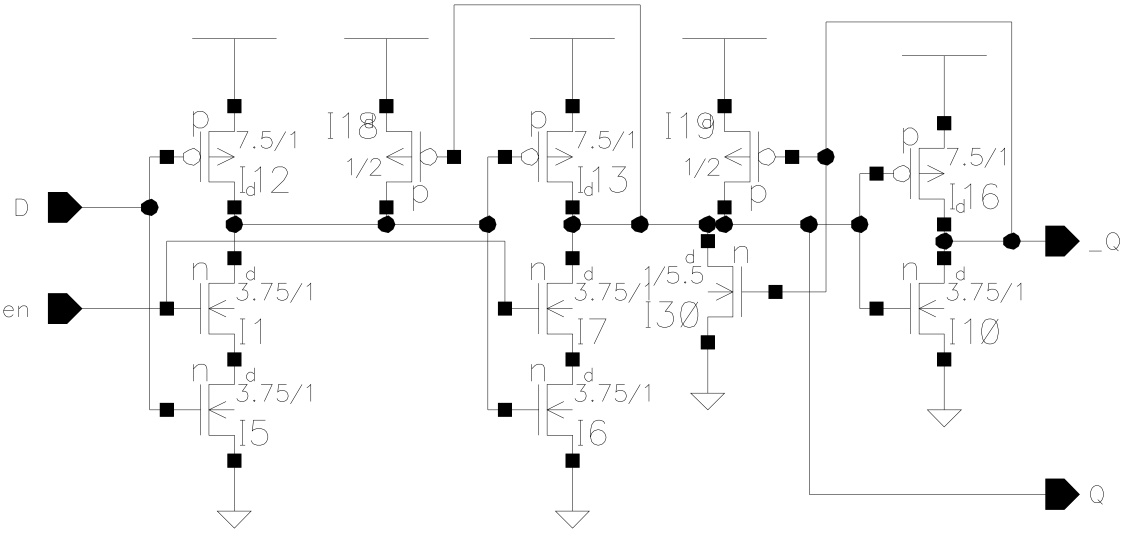
D
en
_Q
Q
p
7.5/1
I12
I18
1/2
p
p
7.5/1
I13
I19
1/2
p
p
7.5/1
I16
n
3.75/1
I1
n
3.75/1
I5
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3.75/1
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3.75/1
I6
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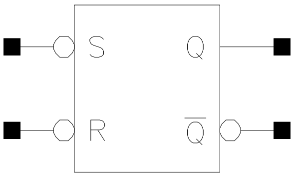
I30
n
3.75/1
I10
d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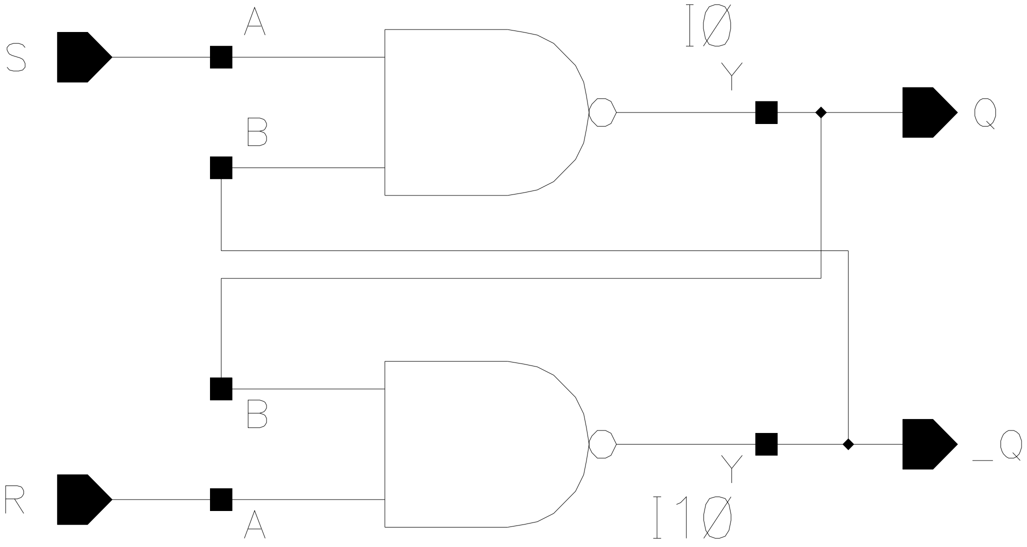
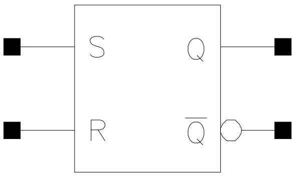
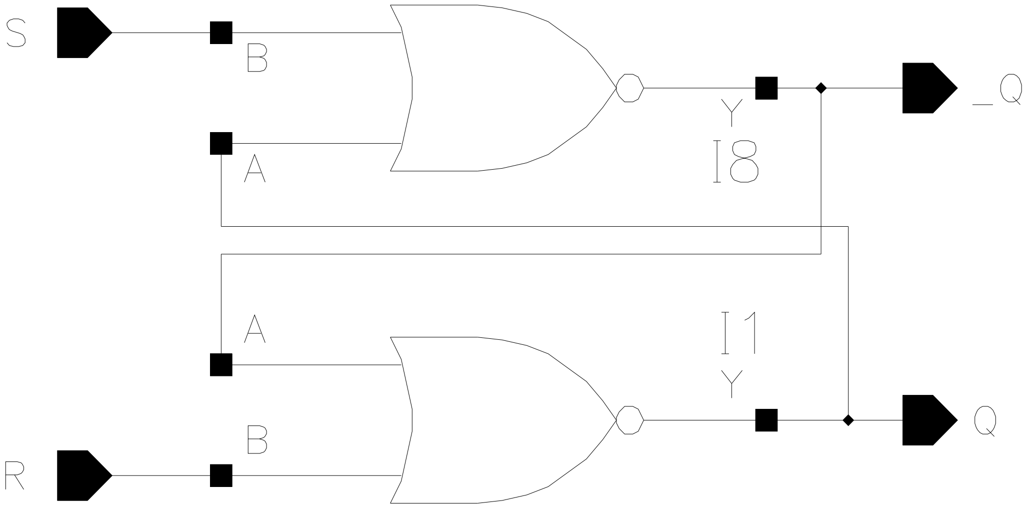
R
Q̄


S
A
B
I0
Y
Q
B
Y
_Q
R
A
I10


S
Q
R
$\overline{Q}$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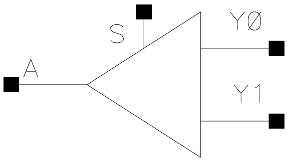
A
Y
I8
_Q
A
I1
Y
B
R
Q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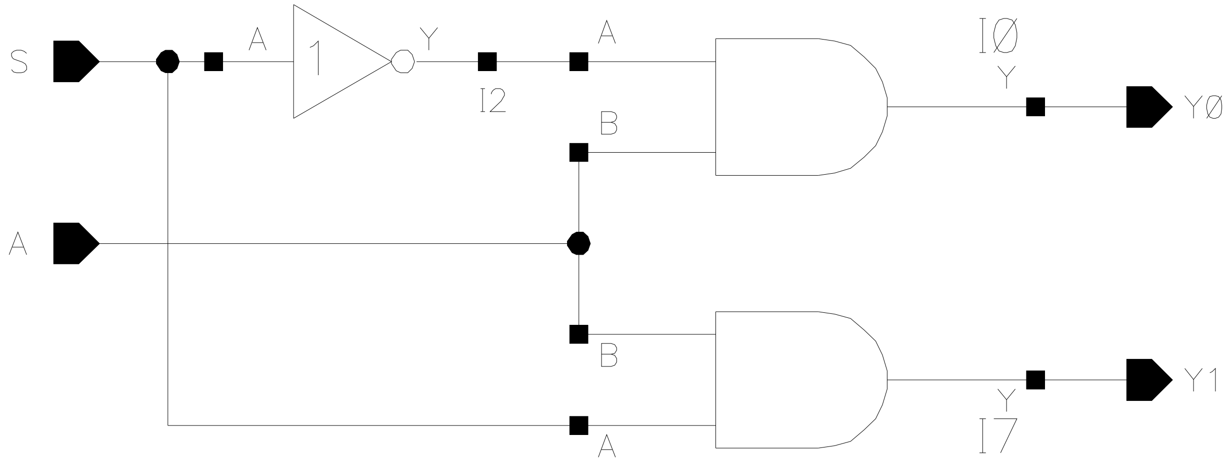
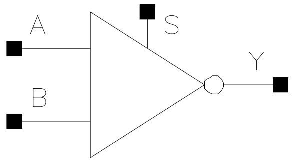
Y0
A
Y1


S
A
1
Y
I2
A
I0
Y
Y0
B
A
B
Y
Y1
I7
A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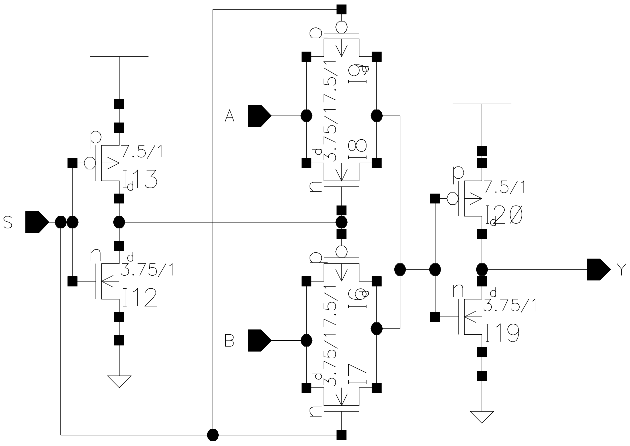
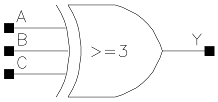
S
Y


S
A
B
Y
p
7.5/1
I13
n
3.75/1
I12
3.75/17.5/1
I9
I8
3.75/17.5/1
I6
I7
p
7.5/1
I20
n
3.75/1
I19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C
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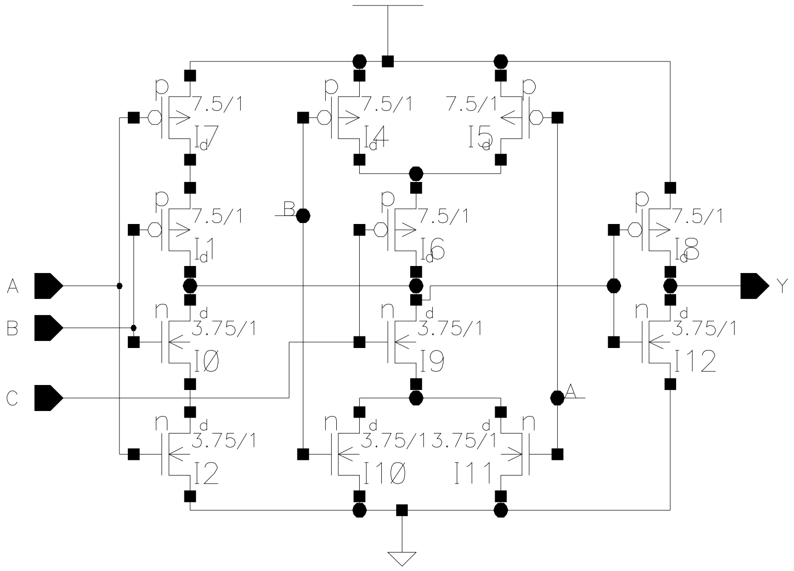
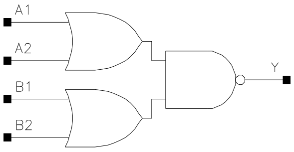

p
7.5/1
I7
I4
I5
I1
I6
I8
B
A
B
C
Y
n
3.75/1
I0
I9
I12
A
I2
I10
I11
d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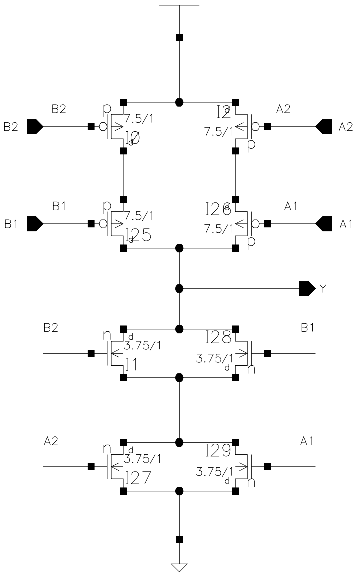
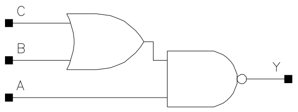
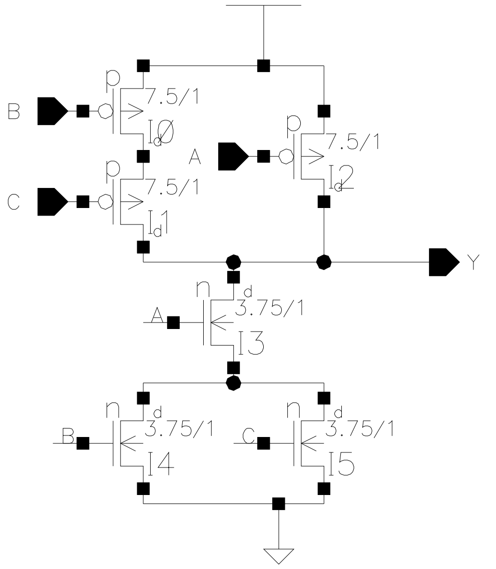
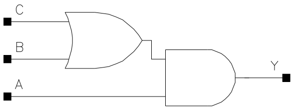
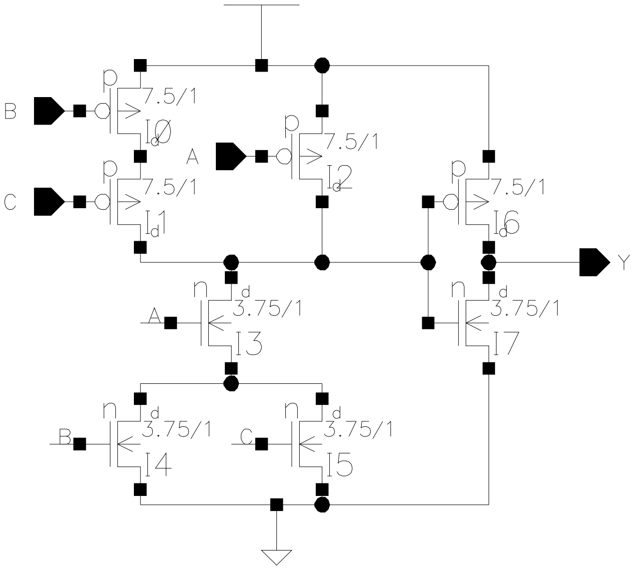
A2
B1
B2
Y


B2
B2
p
7.5/1
I0
d
I2
d
7.5/1
p
A2
A2
B1
B1
p
7.5/1
I25
d
I26
d
7.5/1
p
A1
A1
Y
B2
n
d
3.75/1
I1
I28
3.75/1
d
n
B1
A2
n
d
3.75/1
I27
I29
3.75/1
d
n
A1


C
B
A
Y


B
p
7.5/1
I0
d
C
p
7.5/1
I1
d
A
p
7.5/1
I2
d
Y
n
d
3.75/1
A
I3
B
n
d
3.75/1
I4
C
n
d
3.75/1
I5


C
B
A
Y


B
C
A
Y
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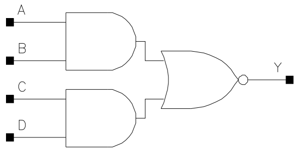
7.5/1
I0
I1
I2
I6
n
3.75/1
d
I3
I4
I5
I7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C
D
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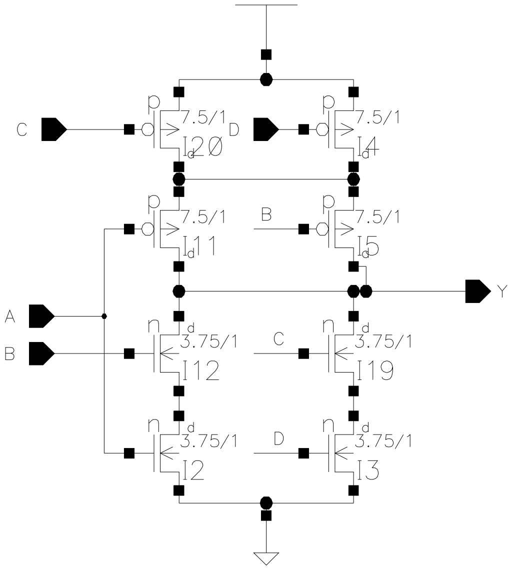
C
p
7.5/1
I20
D
p
7.5/1
I4
p
7.5/1
I11
B
p
7.5/1
I5
Y
A
B
n
d
3.75/1
I12
C
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3.75/1
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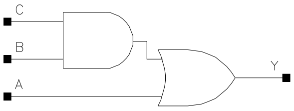
d
3.75/1
I2
D
n
d
3.75/1
I3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A
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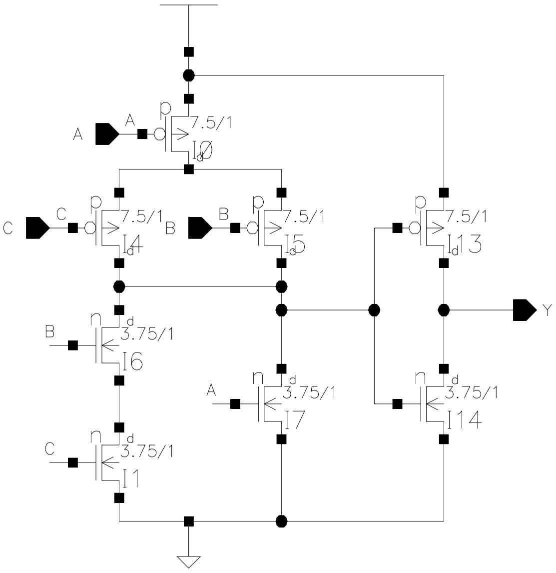
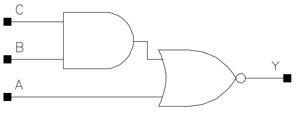
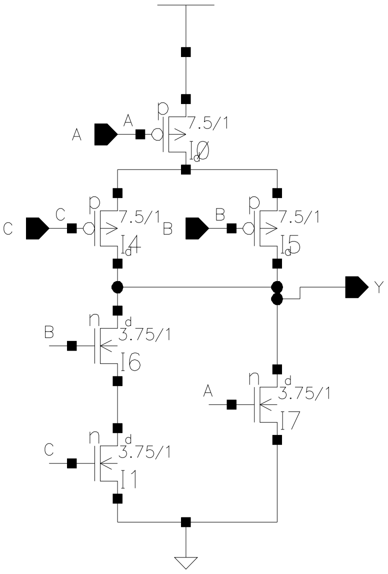
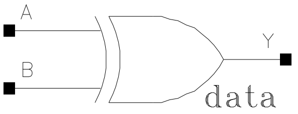

A
A
p
7.5/1
I0
C
C
p
7.5/1
I4
B
B
p
7.5/1
I5
p
7.5/1
I13
Y
B
n
3.75/1
I6
A
n
3.75/1
I7
n
3.75/1
I14
C
n
3.75/1
I1


C
B
A
Y


A
A
p
7.5/1
I0
d
C
C
p
7.5/1
I4
d
B
B
p
7.5/1
I5
d
Y
B
n
d
3.75/1
I6
A
n
d
3.75/1
I7
C
n
d
3.75/1
I1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Y
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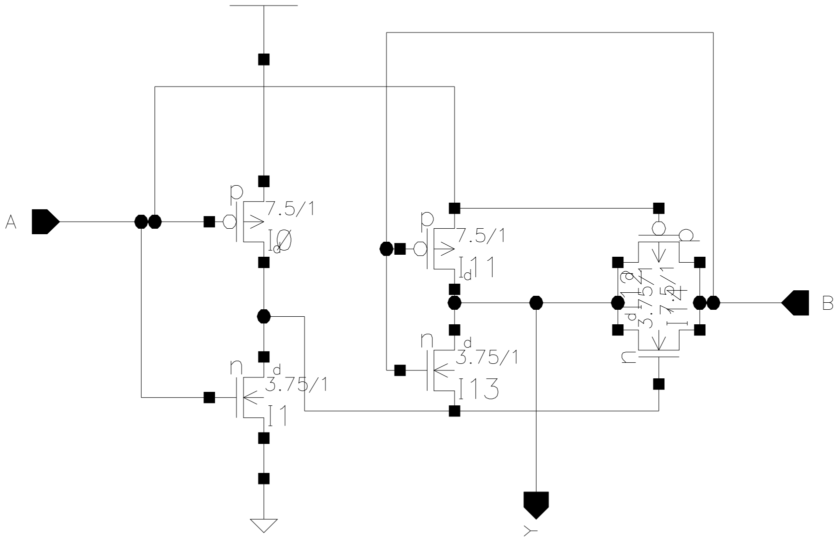
A
B
Y
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7.5/1
I0
n
3.75/1
I1
p
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I11
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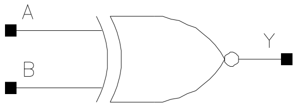
3.75/1
I13
I12
3.75/1
7.5/1
I14
n
d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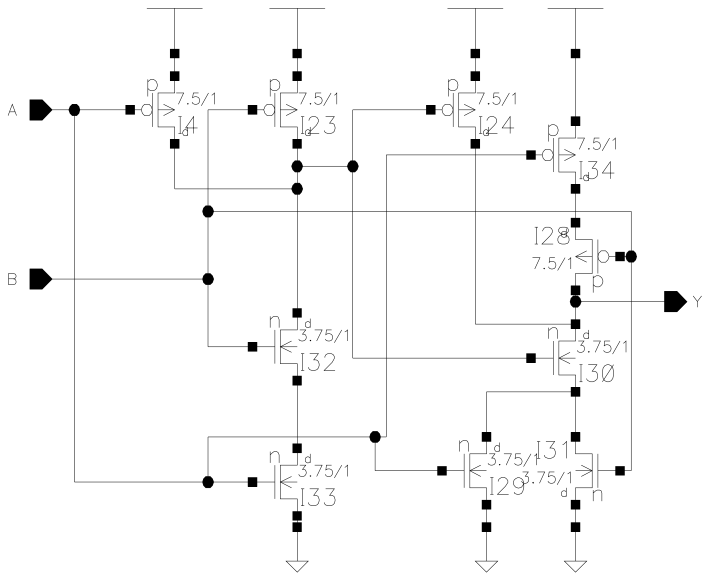
A
B
Y
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I23
I24
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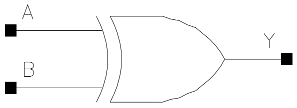
I28
I32
I30
I29
I31
I33
n
3.75/1
d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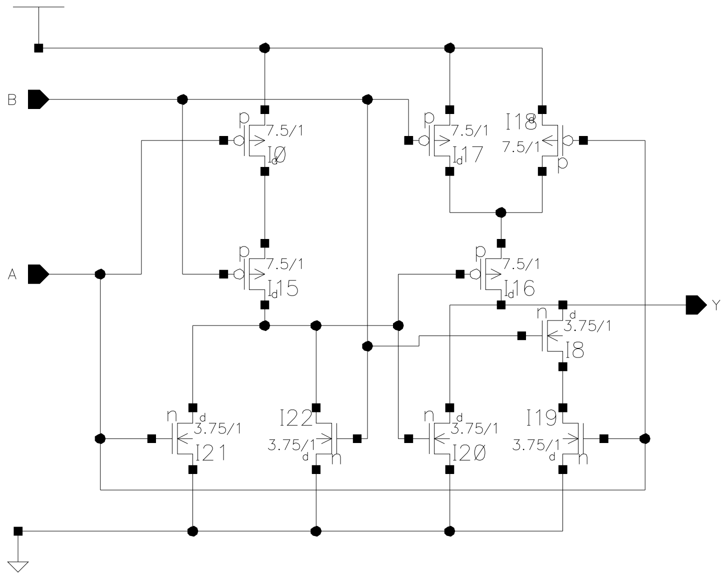
B
A
Y
p
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I15
I17
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3.75/1
I8
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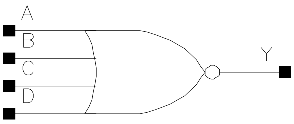
I20
I19
d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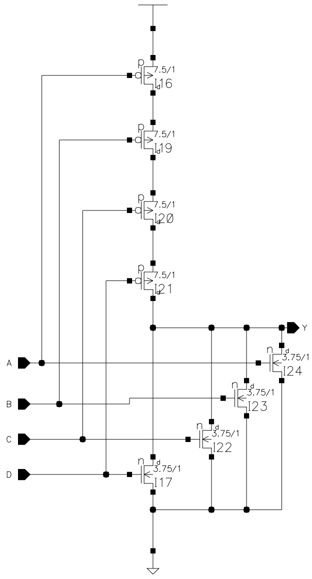
p
7.5/1
I6
p
7.5/1
I19
p
7.5/1
I20
p
7.5/1
I21
Y
A
n
3.75/1
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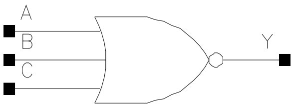
n
3.75/1
I23
C
n
3.75/1
I22
D
n
3.75/1
I17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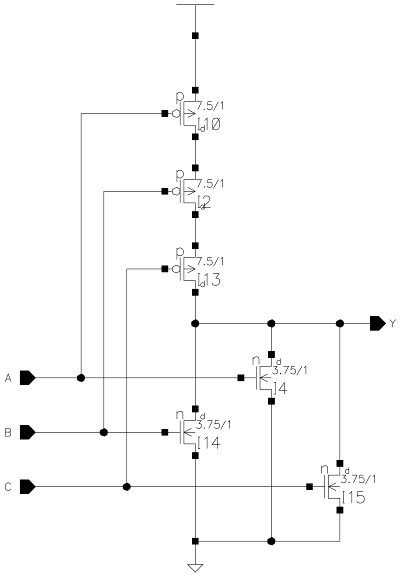
C
Y


p
7.5/1
I10
p
7.5/1
I2
p
7.5/1
I13
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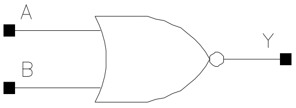
A
n
3.75/1
I4
B
n
3.75/1
I14
C
n
3.75/1
I15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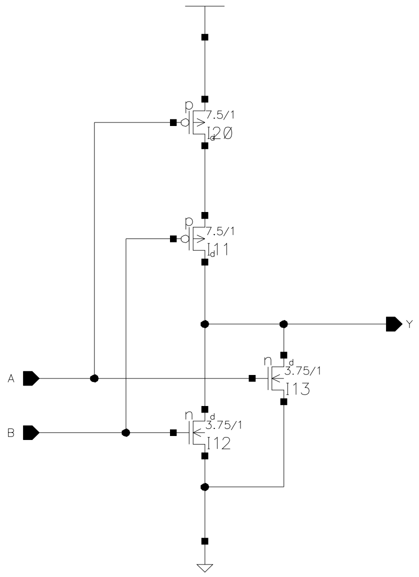
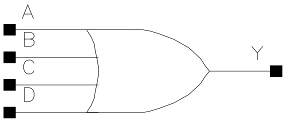
Y


p
7.5/1
I20
p
7.5/1
I11
Y
A
n
d
3.75/1
I13
B
n
d
3.75/1
I12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D
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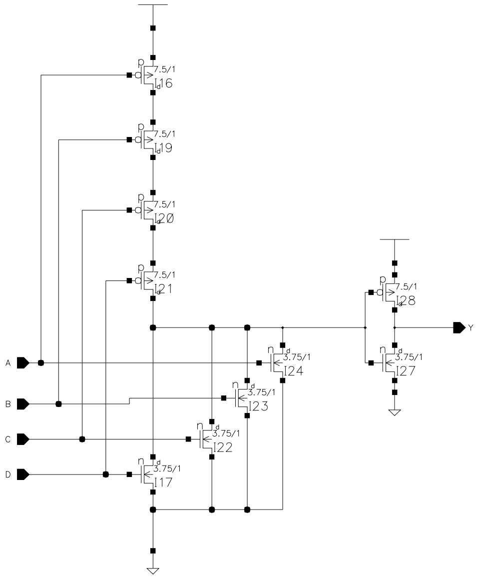
p
7.5/1
I6
I19
I20
I21
I28
n
3.75/1
I24
I23
I22
I17
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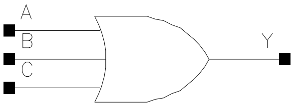
A
B
C
D
Y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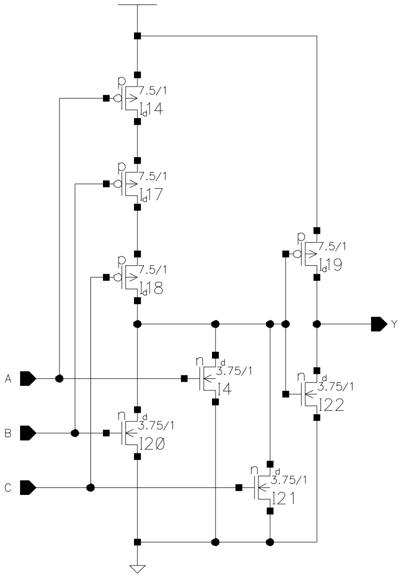
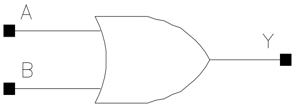
Y


p
7.5/1
I14
p
7.5/1
I17
p
7.5/1
I18
p
7.5/1
I19
Y
A
n
3.75/1
I4
n
3.75/1
I22
B
n
3.75/1
I20
C
n
3.75/1
I21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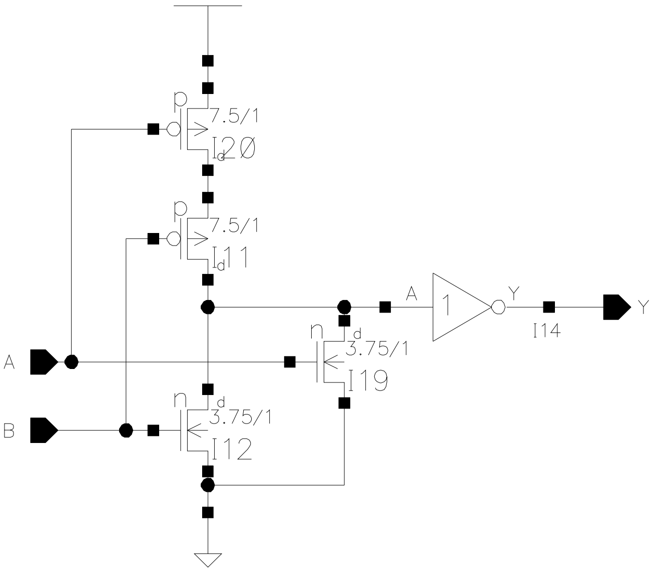
Y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7.5/1
I20
p
7.5/1
I11
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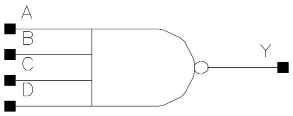
Y
Y
I14
n
d
3.75/1
I19
A
B
n
d
3.75/1
I12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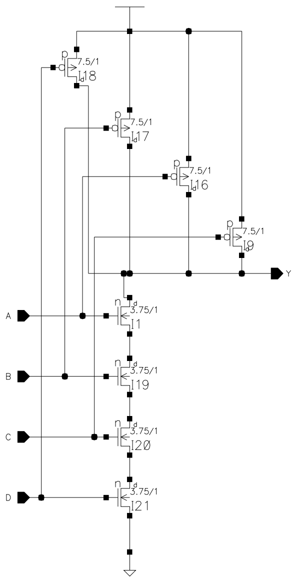
B
C
D
Y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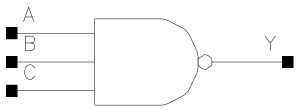
I18
p
7.5/1
I17
p
7.5/1
I16
p
7.5/1
I9
Y
A
n
3.75/1
I1
B
n
3.75/1
I19
C
n
3.75/1
I20
D
n
3.75/1
I21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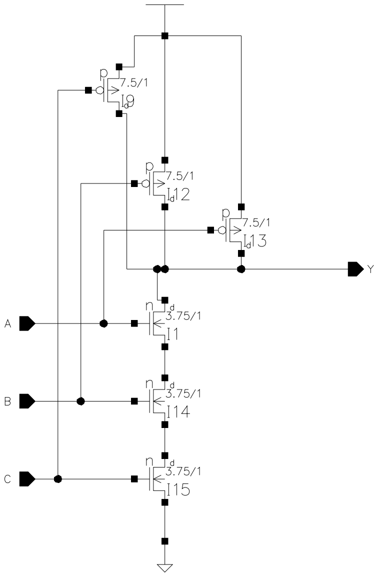
B
C
Y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7.5/1
I9
p
7.5/1
I12
p
7.5/1
I13
Y
n
3.75/1
I1
A
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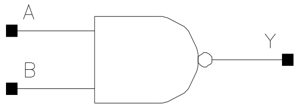
3.75/1
I14
B
n
3.75/1
I15
C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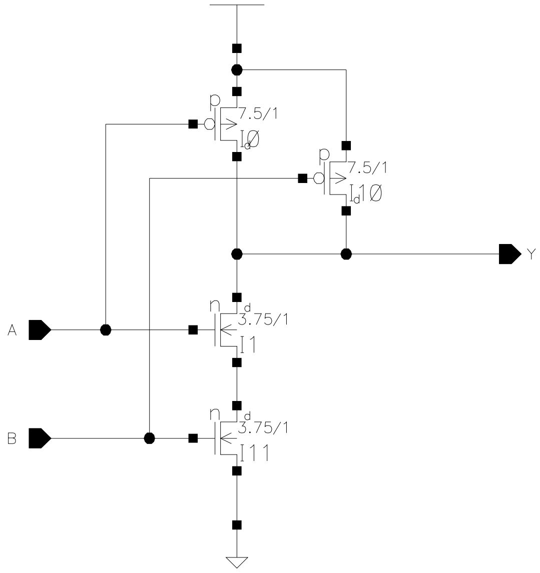
Y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p
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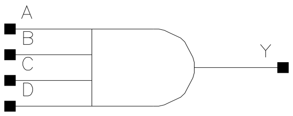
d
3.75/1
I1
B
n
d
3.75/1
I11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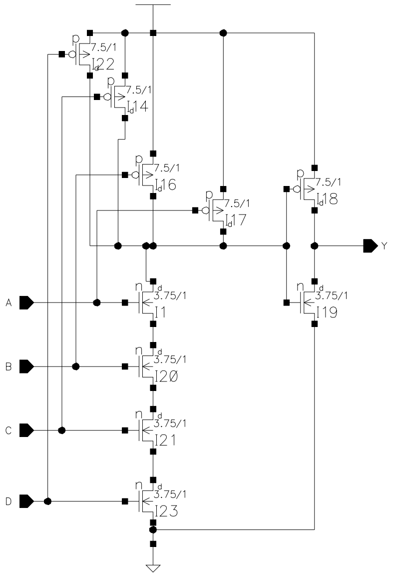
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7.5/1
I22
p
7.5/1
I14
p
7.5/1
I16
p
7.5/1
I17
p
7.5/1
I18
Y
A
n
3.75/1
I1
n
3.75/1
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B
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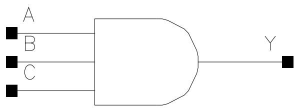
3.75/1
I20
C
n
3.75/1
I21
D
n
3.75/1
I23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C
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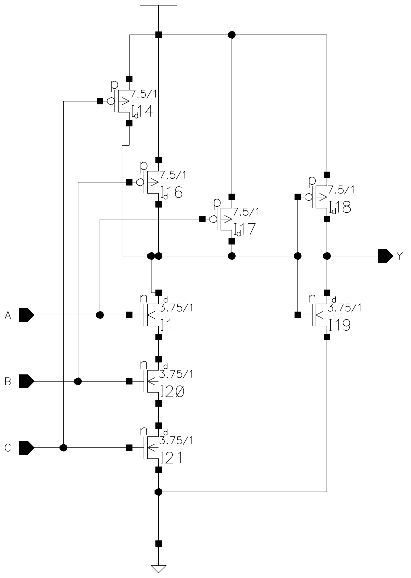
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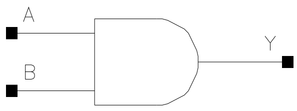
7.5/1
I14
p
7.5/1
I16
p
7.5/1
I17
p
7.5/1
I18
Y
A
n
3.75/1
I1
n
3.75/1
I19
B
n
3.75/1
I20
C
n
3.75/1
I21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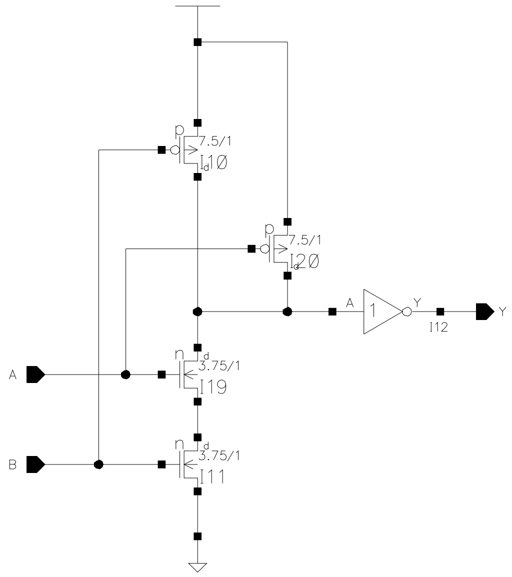
p
7.5/1
I10
p
7.5/1
I20
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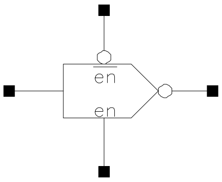
1
Y
I12
Y
A
n
3.75/1
I19
B
n
3.75/1
I11



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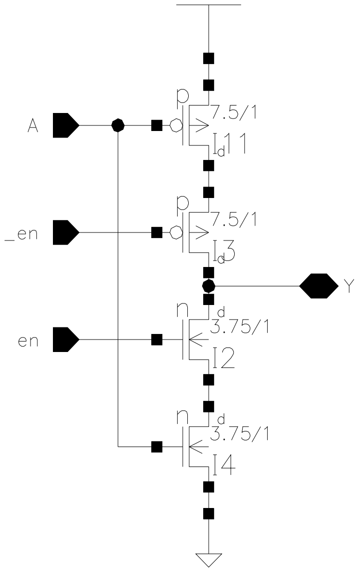
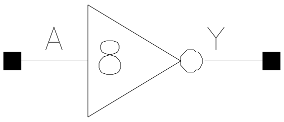


A
_en
en
Y
p
7.5/1
d
I11
p
7.5/1
d
I3
n
d
3.75/1
I2
n
d
3.75/1
I4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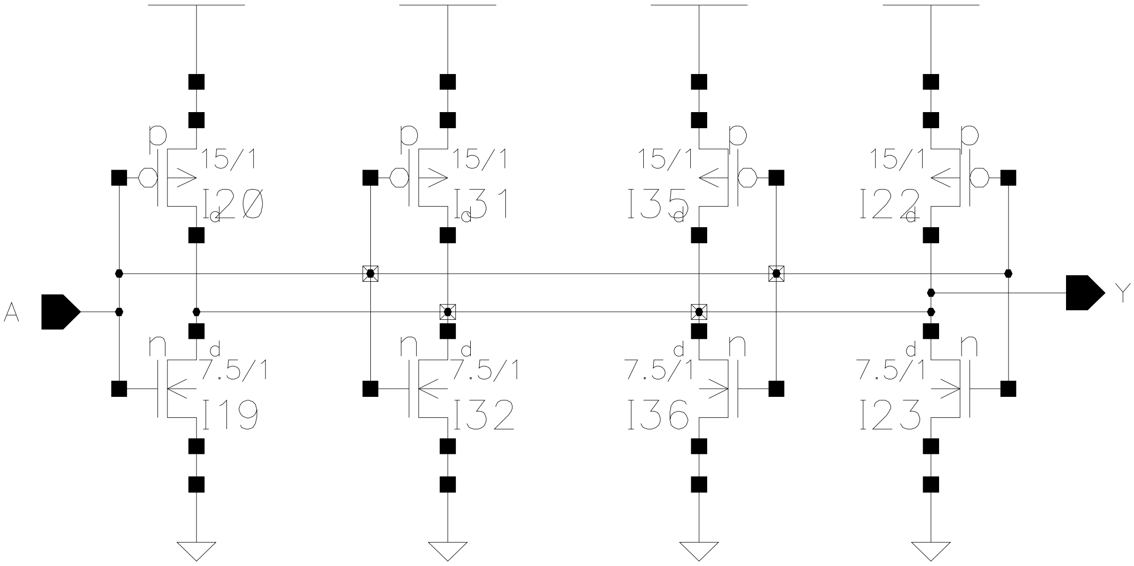
8
Y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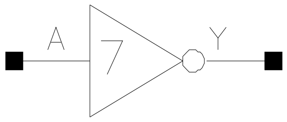
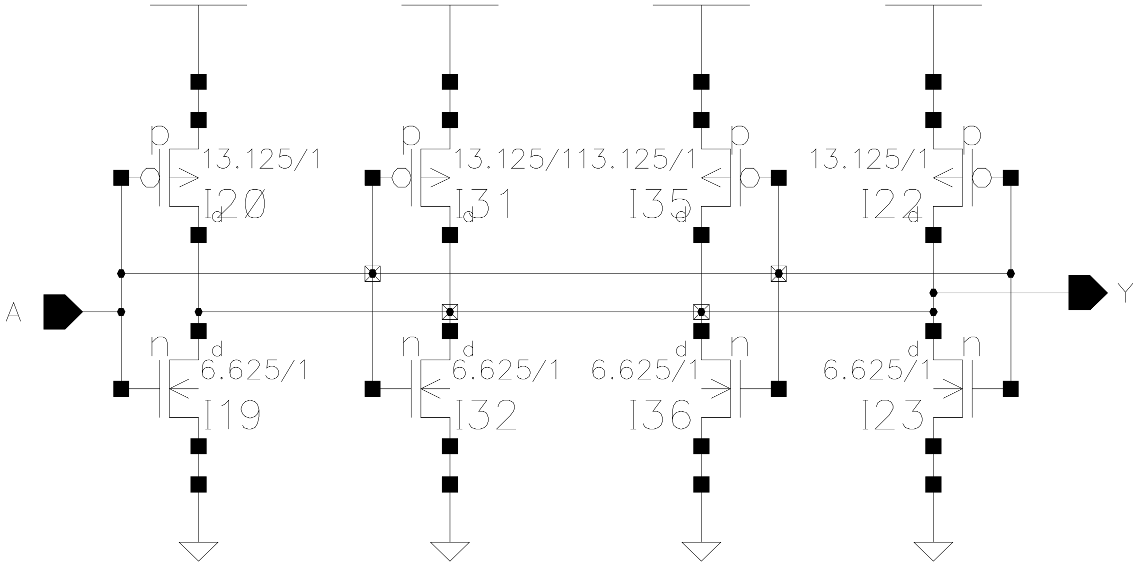
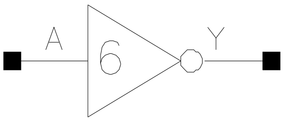
15/1
I20
d
p
15/1
I31
d
15/1
p
I35
d
15/1
p
I22
d
A
Y
n
d
7.5/1
I19
n
d
7.5/1
I32
d
n
7.5/1
I36
d
n
7.5/1
I23


A
7
Y


p
13.125/1
I20
d
p
13.125/1
I31
d
13.125/1
p
I35
d
13.125/1
p
I22
d
A
Y
n
d
6.625/1
I19
n
d
6.625/1
I32
d
6.625/1
n
I36
d
6.625/1
n
I23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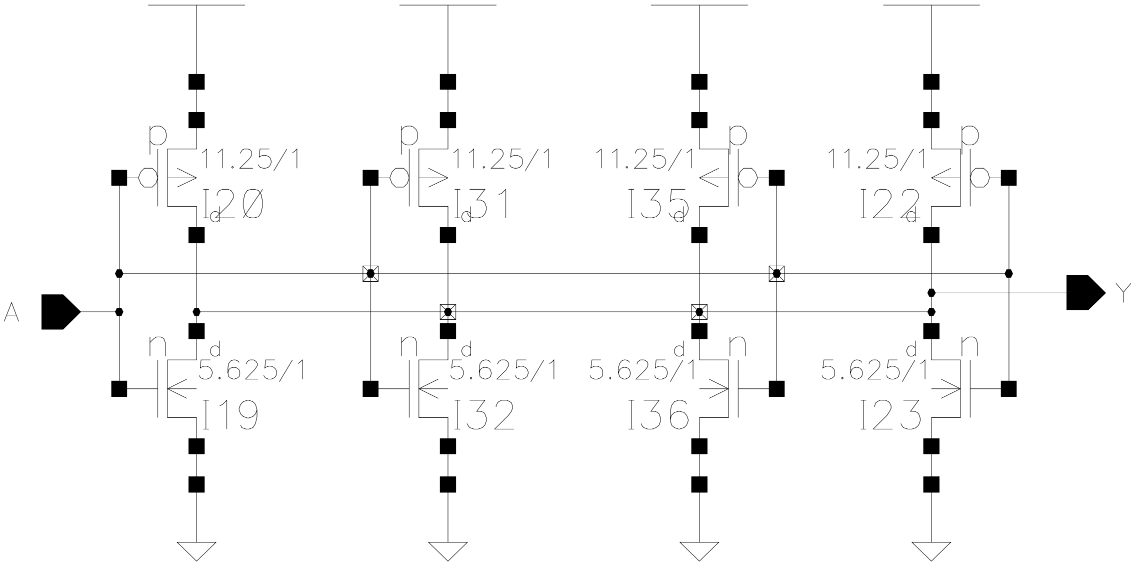
6
Y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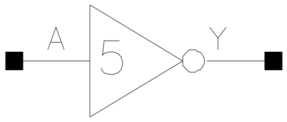
I20
d
p
11.25/1
I31
d
11.25/1
p
I35
d
11.25/1
p
I22
d
A
Y
n
d
5.625/1
I19
n
d
5.625/1
I32
d
n
5.625/1
I36
d
n
5.625/1
I23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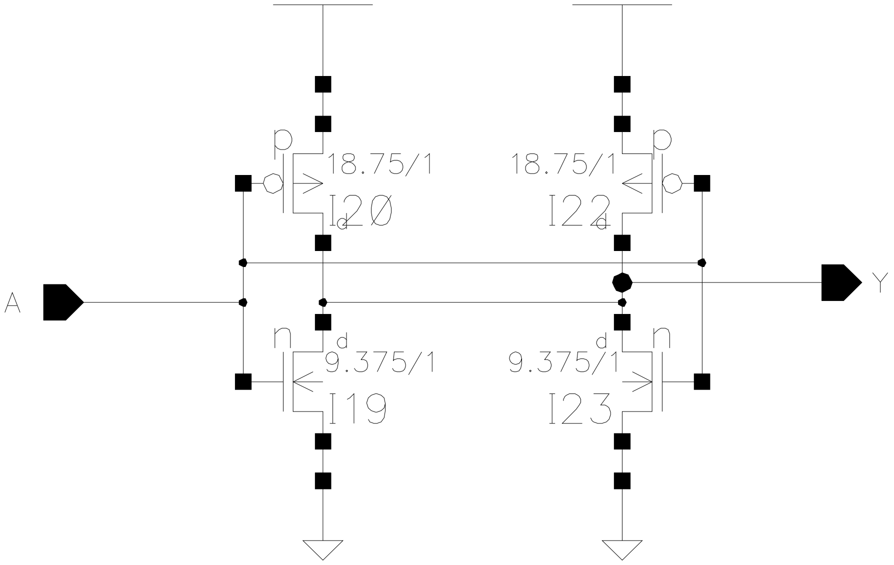
Y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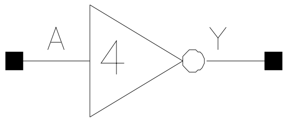
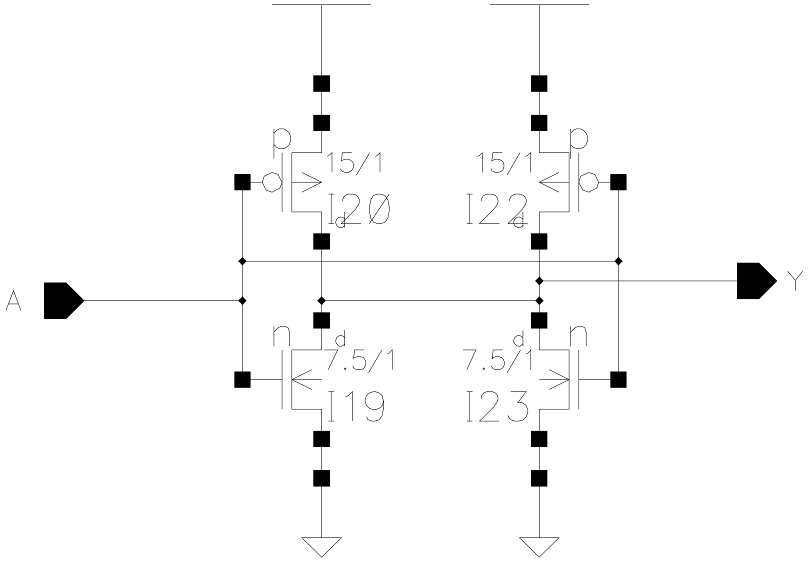
18.75/1
I20
d
18.75/1
p
I22
d
A
Y
n
d
9.375/1
I19
d
9.375/1
n
I23


A
4
Y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15/1
I20
d
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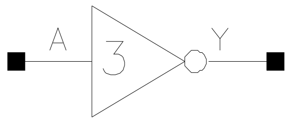
15/1
I22
d
A
Y
n
d
7.5/1
I19
d
n
7.5/1
I23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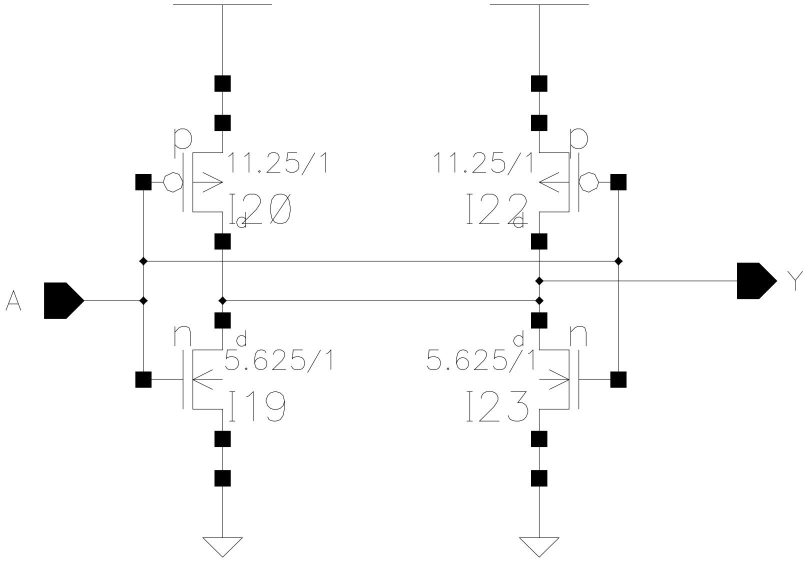
3
Y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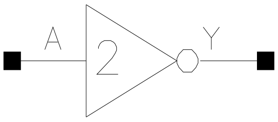
11.25/1
I20
d
p
11.25/1
I22
d
A
Y
n
d
5.625/1
I19
d
n
5.625/1
I23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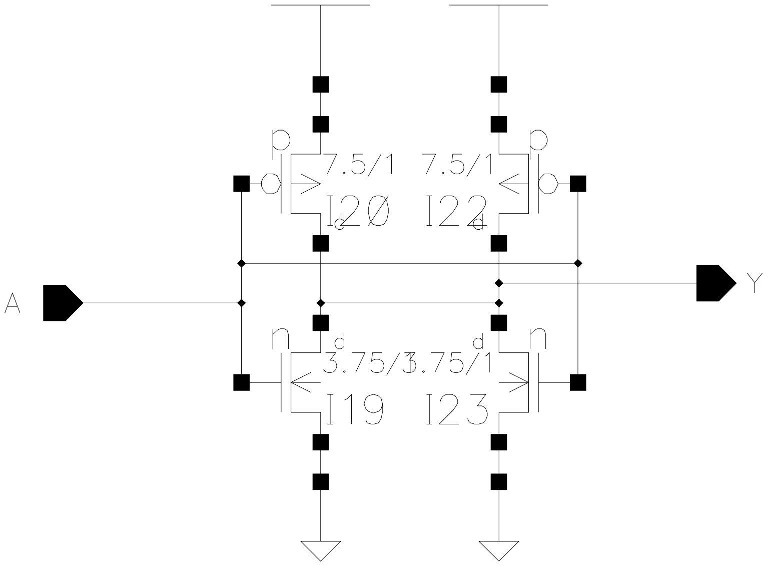
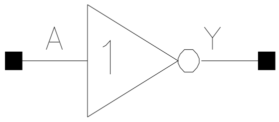
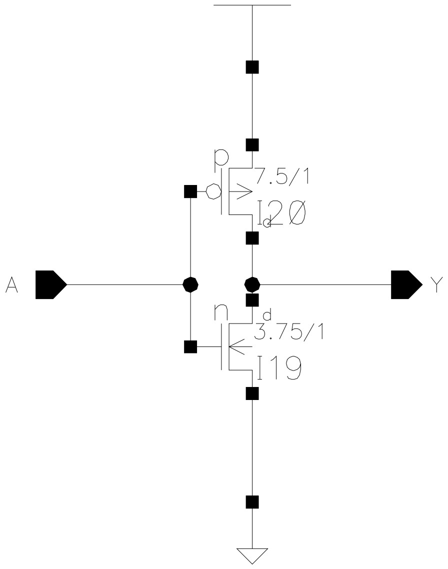
2
Y


p
7.5/1
I20
d
7.5/1
I22
d
p
A
Y
n
d
3.75/1
I19
d
3.75/1
I23
n


A
1
Y


p
7.5/1
I20
d
A
Y
n
d
3.75/1
I19

Amulet Group Low Power Cell Library Datasheets

The work here has been carried out as part of ESPIRIT project OMI-EXACT (the Open Microprocessor systems Initiative - Exploitation of Asynchronous Circuit Technologies)

Craig Farnsworth (cf@cs.man.ac.uk)
Department of Computer Science
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