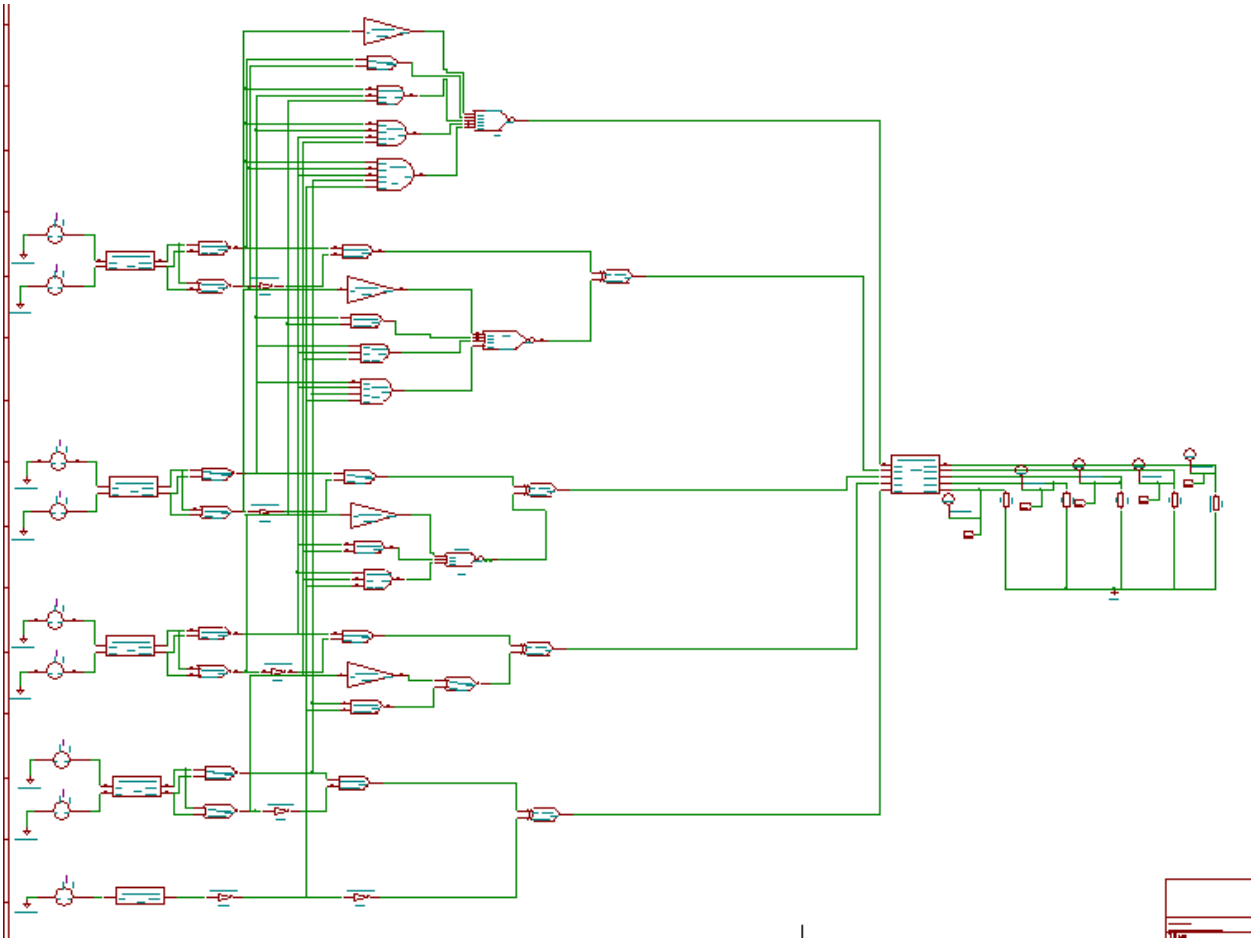
Name of the participant : CC Kalyani

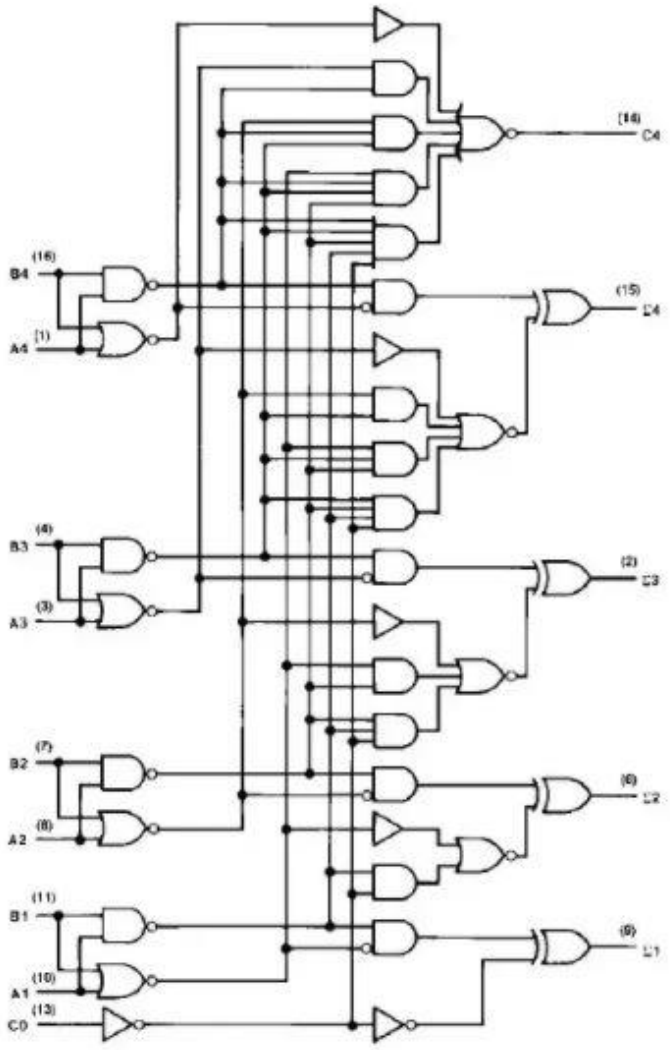
Title of the circuit : Design of IC 7483

Description :

IC 7483 is a 4 bit adder that adds 2 binary numbers and produces a 4 bit binary sum and an output carry. It is a parallel adder which has four interconnected adders along with a look ahead carry circuit. This 16 bit IC is used in high speed arithmatic operations, display driver circuits, counters, calculator circuits, matrix keyboards etc.

Circuit Diagram :





Results:

Add parameters for DC source v2

Enter value(Volts/Amps): 5

Add parameters for DC source v1

Enter value(Volts/Amps): 5

Add parameters for DC source v4

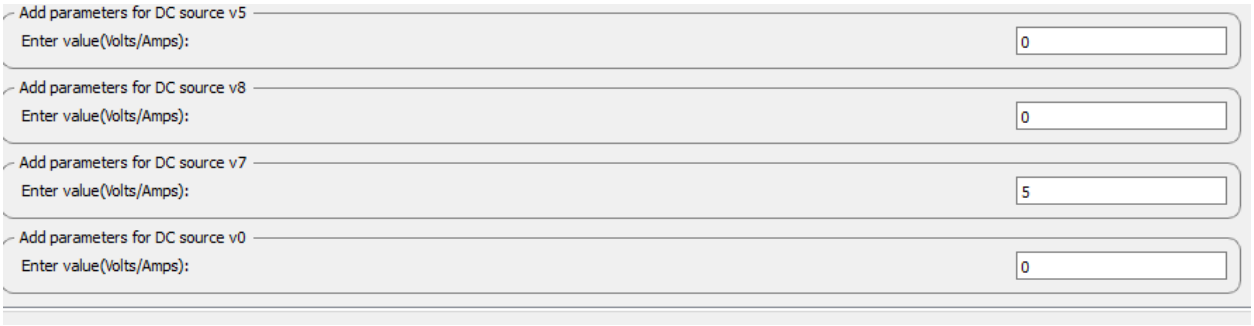
Enter value(Volts/Amps): 5

Add parameters for DC source v3

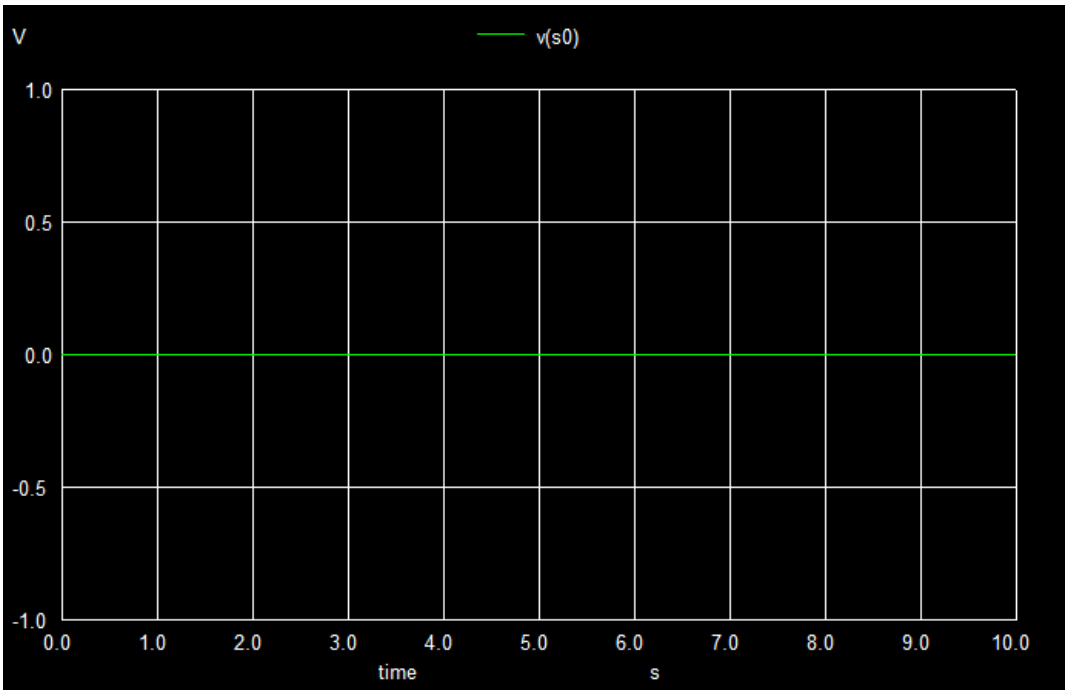
Enter value(Volts/Amps): 0

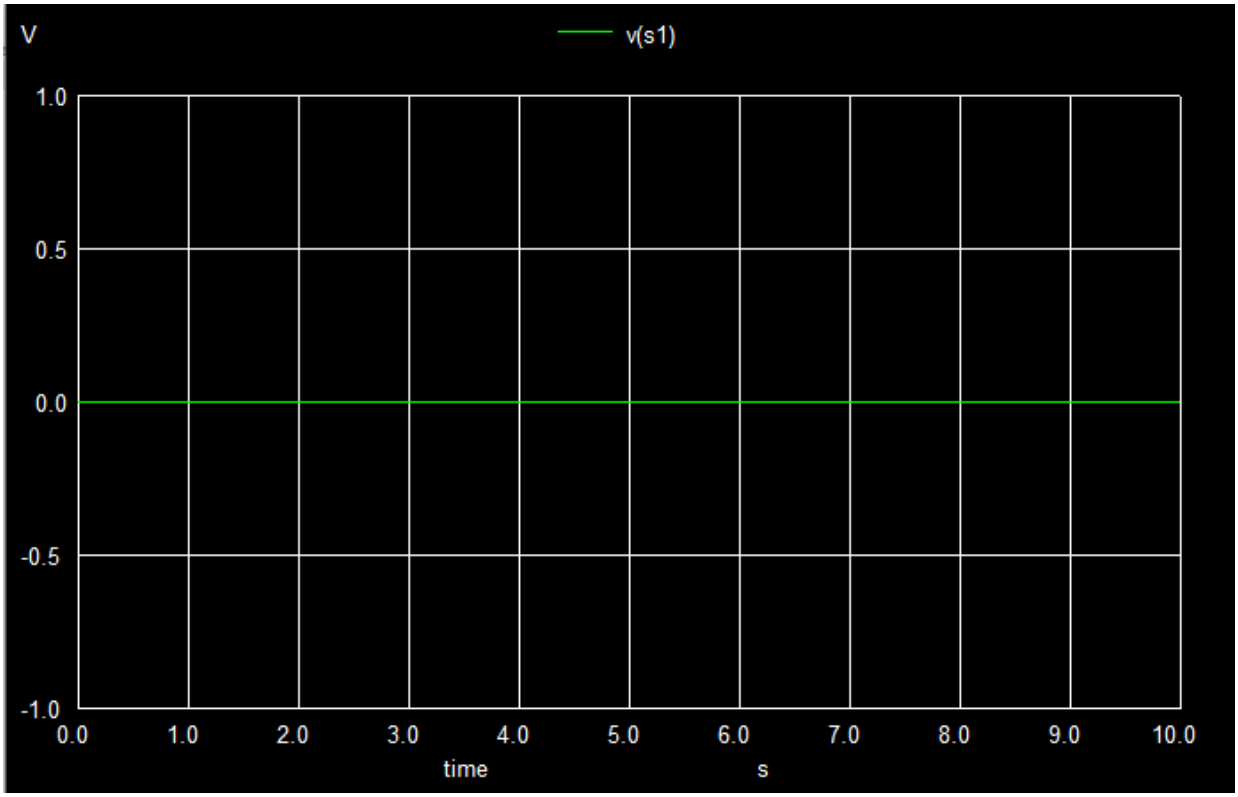
Add parameters for DC source v6

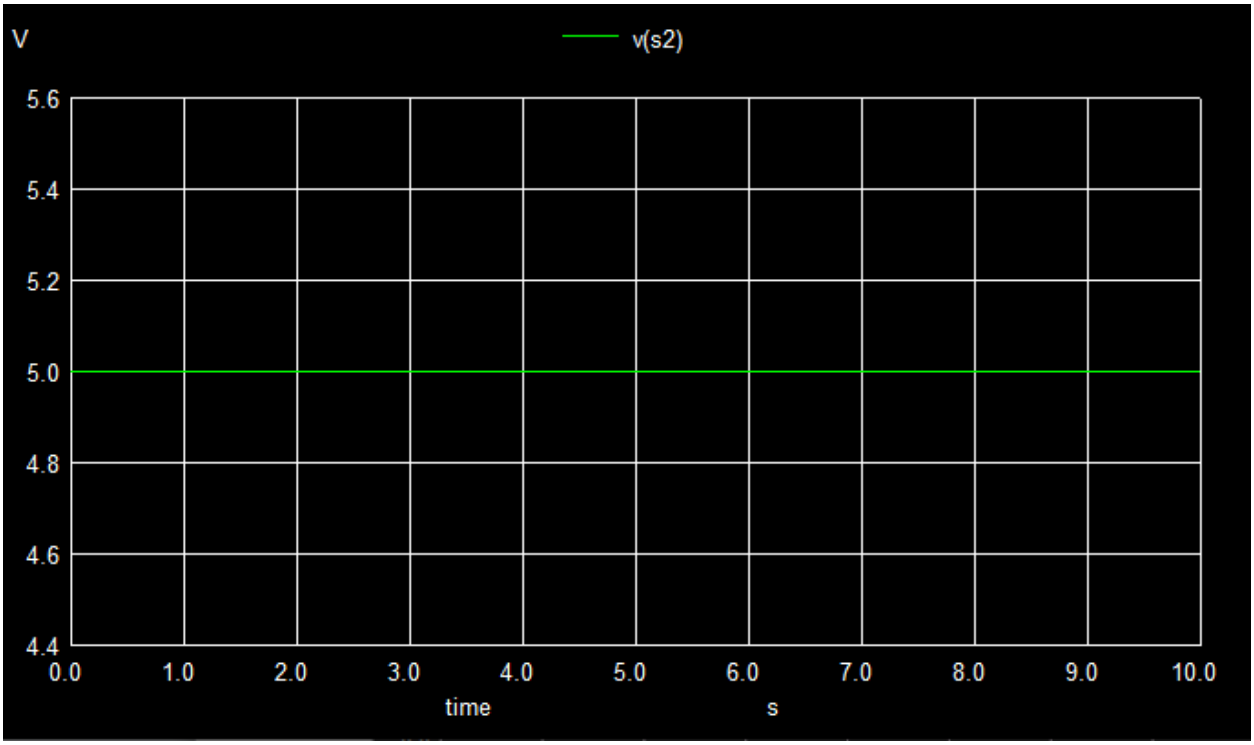
Enter value(Volts/Amps): 0

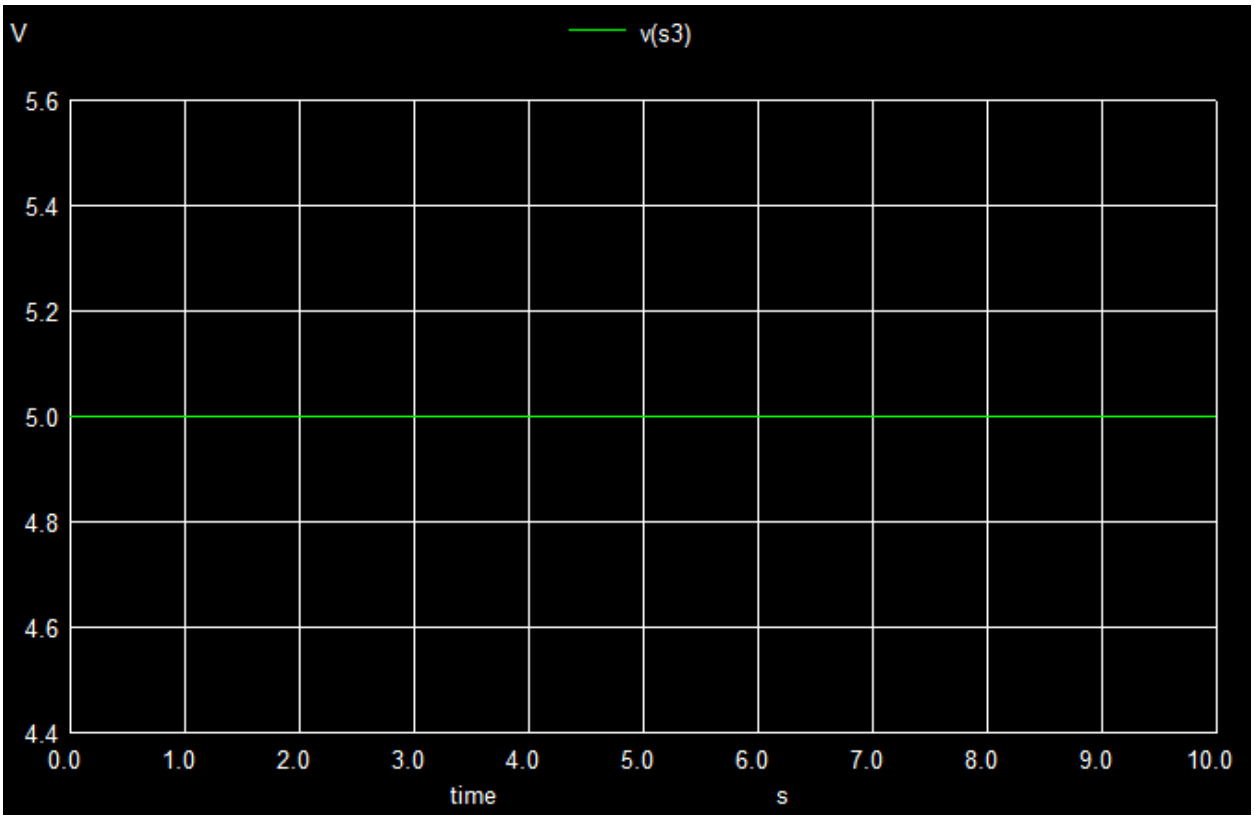


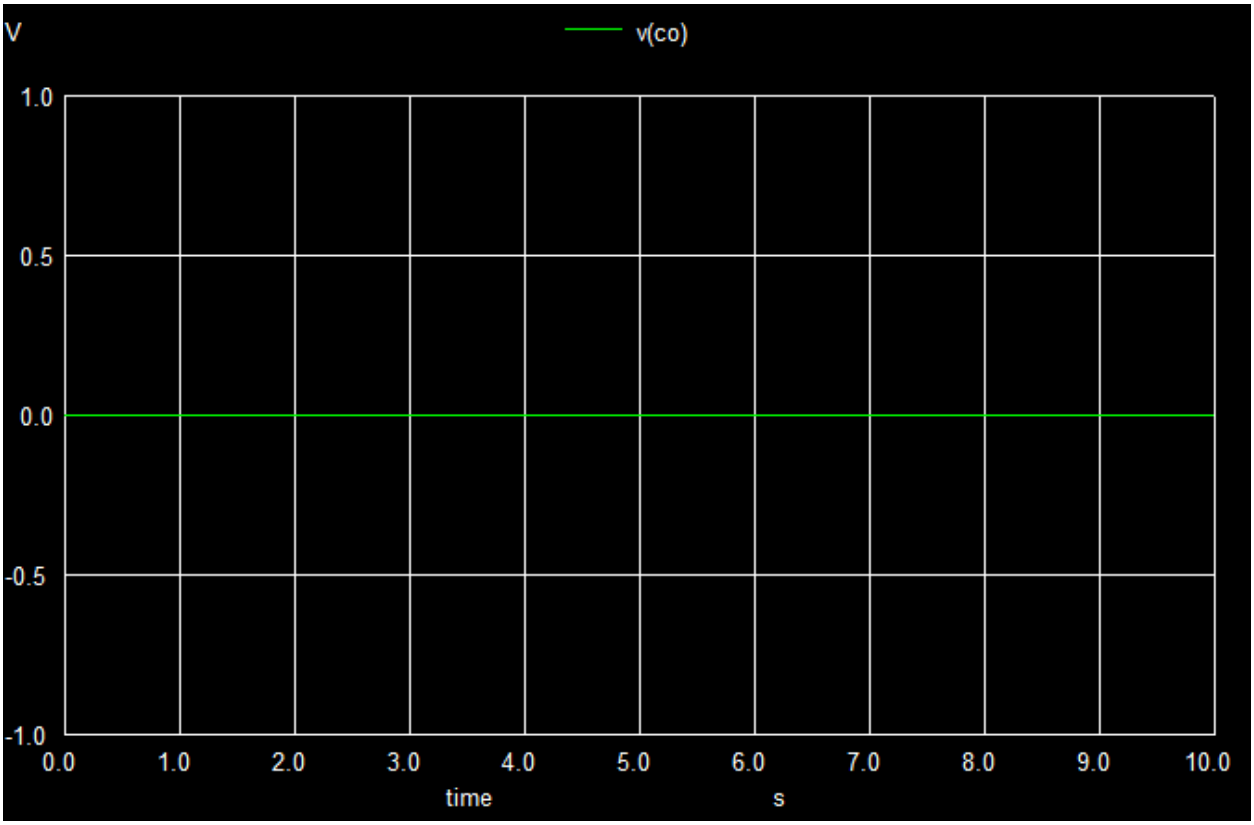
V0=co=0; v1 v3 v5 v7= A0 A1 A2 A3 =1001; v2 v4 v6 v8=B0 B1 B2 B3=0011




V
v(s1)
1.0
0.5
0.0
-0.5
-1.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
time
s


V
v(s2)
5.6
5.4
5.2
5.0
4.8
4.6
4.4
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
time
s


V
v(s3)
5.6
5.4
5.2
5.0
4.8
4.6
4.4
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
time
s


V
v(co)
1.0
0.5
0.0
-0.5
-1.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
time
s

References:

1. https://datasheetspdf.com/pdf/248191/FairchildSemiconductor/74283/1