

13:00

Carry select adder (CSA)

14:00

A CSA is a high speed binary adder designed to reduce the propagation delay of large adders by calculating multiple possible sums in parallel.

16:00

→ The CSA improves the performance by calculating in parallel for two possible scenarios: one where the carry-in is 0 and one where the carry-in is 1.

19:00

→ This Parallelism reduces the overall delay, making the adder faster.

Eve.

June

Su	Mo	Tu	We	Th	Fr	Sa
.	.	.	.	1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	.

May 2023

Tuesday 09

(129 - 236) Wk 20

08:00

→ In CSA, two RCAs are used in parallel to compute sums based on two different assumptions about the carry-in (0 and 1)

09:00

10:00

→ A MUX is used at each stage to select the correct sum and carryout from the two pre-computed results based on the actual carry-in from the previous stage.

11:00

→ Carry-in refers to the carry that is fed into a specific block of the adder.

12:00

14:00

→ Carry-out refers to the result of the addition of that block, propagated to the next block.

15:00

16:00

Advantages - faster than RCA
Simple to implement when compared to CLA

17:00

18:00

Disadvantages - Increased Area
power consumption

19:00

10 Wednesday

(130 - 235) Wk 20

Su	Mo	Tu	We	Th	Fr
•	1	2	3	4	5
7	8	9	10	11	12
14	15	16	17	18	19
21	22	23	24	25	26
28	29	30	31	•	•

08:00

4-bit CSA :

09:00

0:00

1:00

:00

00

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0

