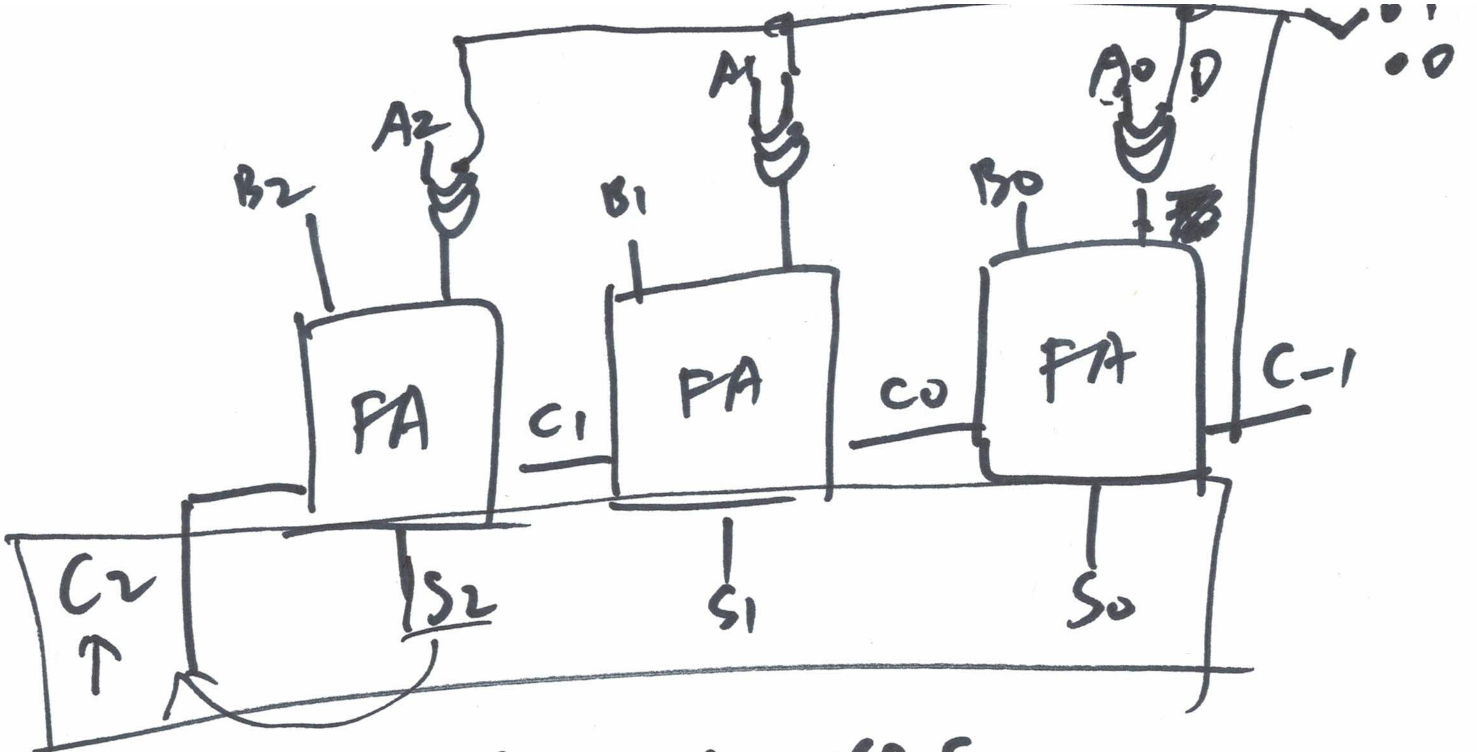


If overflow happens, use C_2

If no overflow happens, use S_2 as C_2.

△ If overflow, adopt C_2

```
  111   N  -1
+ 100   N  -4
-----------------
 1011   P  -5
 -8 2+1    = -5
```

If no overflow

```
  111   N  -1
  101   N  -3
-----------------
 X100   N  -4
```

△ 0 0 1 1 P 3
0 0 1 1 P 3
01 10 N 6

C_2 = ______

C_1 = ______

△ 111 N −1
001 P 1
01000 0

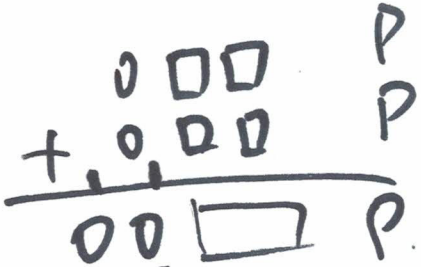
overflow happens

If ov == 1 → ◯ digit <= {C_2, S_2, S_1, S_0}

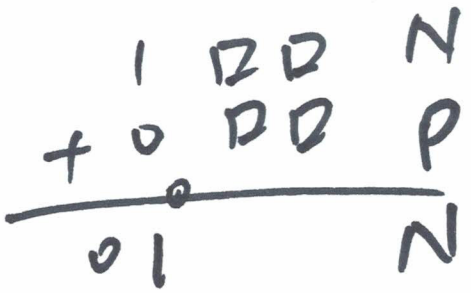
If ov == 0 ◯ digit <= {S_2, S_2, S_1, S_0}

②

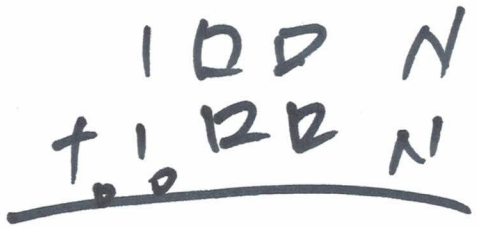
△ $C_2C_1 = 00$



No overflow

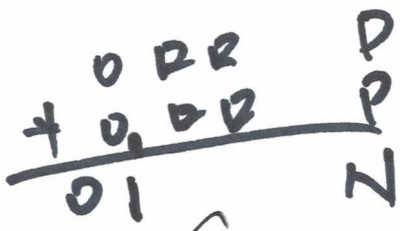


No overflow

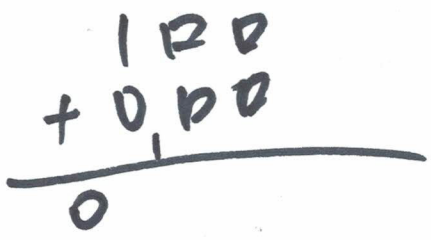


Impossible

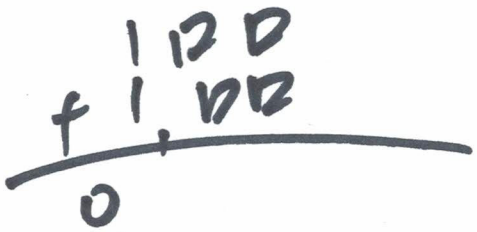
$C_2C_1 = 01$



OV



No OV



Impossible

(3)

$C_2 C_1 = 10$

```
  0 D D          1 D D          1 D D
+ 0 D D        + 0 D D        + 1 D D
-------        -------        -------
1              1              1 0
```

Impossible   Impossible   OV

$C_2 C_1 = 11$

```
  0 D D          1 D D          1 D D
+ 0 D D        + 0 D D        + 1 D D
-------        -------        -------
1.             1              1 1
```

Impossible   No OV   NO OV.

C_2	C_1	OV
0	0	0
0	1	1
1	0	1
1	1	0

$OV = C_2 \wedge C_1$