* —— O —— Problems —— O ——

① -12 + (-33) using both 1's & 2's Complement method using 8-bit

Sol -12 ⇒ 11110011 → 1's Complement
↳ 11110100 → 2's Complement

-33 → 11011110 → 1's Complement
↳ 11011111 → 2's Complement

1's Complement

```
  11110011
+ 11011110
----------
① 11010001
 └→      1
+
----------
  11010010
```

2's Complement

```
  11110100
+ 11011111
----------
① 11010011
↓
Discard
```

Find :- −(1's Complement of $(11010010)_2$)

⇒ $-(00101101)_2$

Find :- −(2's Complement of $(11010011)_2$)

⇒ −(00101101)

∴ $-(00101101)_2 = -(45)_{10}$

② 98 + (−9) using both 1's and 2's Complement using 8-bit

$(98)_{10}$ ⇒ 01100010 → 1's & 2's Complement

(−9) ⇒ 11110110 → 1's Complement
└→ 11110111 → 2's Complement

1's Complement

```
  01100010
+ 11110110
----------
① 01011000
 └→      1
----------
  01011001
```

final ↑

2's Complement

```
  01100010
+ 11110111
----------
① 01011001
↙
Discard
```

final ↗

∴ $(01011001)_2$ ⇒ $(+89)_{10}$