→ UPPERCASE TO LOWERCASE & NICE-VERSA

→ Observe the pattern here in lower and uppercase characters, all bits are same except 5th bit.
→ 5th bit of uppercase is unset (0).
→ 5th bit of lowercase is set (1).
eg: (A == 1000001) and (a = 1100001)

```
FOR (CHAR C = 'A'; C ≤ 'E'; C++)
{
    COUT << C << " ";
    PRINTBINARY(C);
}
COUT << "\n"

FOR (CHAR C = 'a'; C ≤ 'e'; C++)
{
    COUT << C << " ";
    PRINTBINARY(C);
}
```

→ Here, we can observe the pattern:
→ A 00001000001
→ B 00001000010
→ C 00001000011
→ D 00001000100
→ E 00001000101

→ a 00001100001
→ b 00001100010

→ c 000011000011
→ d 000011001100
→ e 000011001101

→ So, to convert upper to lower case we have to set its 5th bit.
→ and to convert lower to upper case we have to unset its 5th bit.

→ Upper to lower
CHAR a = 'A' | (1 << 5);
COUT << a << "\n";
→ Using Trick
COUT << CHAR('B' | ' ') << "\n" // ' ' its binary is 100000 (1<<5)

→ lower to Upper
CHAR A = ('a' & (~(1 << 5)));
COUT << A << "\n";
→ Using Trick
COUT << CHAR('b' & '_') << "\n" // '_' its binary is 10111111