main.c

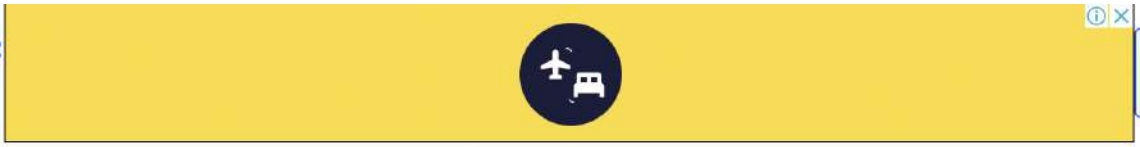
Run

```c
#include <stdio.h>
#include <stdint.h>

#define BLOCK_SIZE 8

// Permutation functions
int P10[] = {3, 5, 2, 7, 4, 10, 1, 9, 8, 6};
int P8[] = {6, 3, 7, 4, 8, 5, 10, 9};
int IP[] = {2, 6, 3, 1, 4, 8, 5, 7};
int IP_INV[] = {4, 1, 3, 5, 7, 2, 8, 6};
int EP[] = {4, 1, 2, 3, 2, 3, 4, 1};
int P4[] = {2, 4, 3, 1};

int S0[4][4] = {
    {1, 0, 3, 2},
    {3, 2, 1, 0},
    {0, 2, 1, 3},
    {3, 1, 3, 2}
```

Output

Clear

```
Plaintext : 0000000100100011
Encrypted : 0001000100010010
Decrypted : 1010100000010011


=== Code Execution Successful ===
```



main.c

Run

Output

Clear

```c
    uint8_t plaintext[2] = {0x01, 0x23}; //
        00000001 00100011
    uint8_t ciphertext[2];
    uint8_t decrypted[2];

    cbc_encrypt(plaintext, ciphertext, 2, iv,
        k1, k2);
    cbc_decrypt(ciphertext, decrypted, 2, iv,
        k1, k2);

    print_bin("Plaintext ", plaintext, 2);
    print_bin("Encrypted ", ciphertext, 2); //
        Should match 11110100 00001011
    print_bin("Decrypted ", decrypted, 2);

    return 0;
}
```

```
Plaintext : 0000000100100011
Encrypted : 0001000100010010
Decrypted : 1010100000010011


=== Code Execution Successful ===
```