Microprocessor Assignment 1

Name : Kushal Das , Roll : 002010501071

1. Load the contents of the memory locations 2200H and 2201H into registers. Add these registers and store the result in memory locations 2202H and 2203H.

```
LDA 2200H
LXI H,2201H
ADD M
INX H
MOV M,A
MVI A,00H
ADC A
INX H
MOV M,A
HLT
```

2. Find the sum of N numbers stored in consecutive locations starting from 2500H. The value of N is stored in 2200H. Store the result in locations 2300H and 2301H.

```
LXI H,2200H
MOV B,M
LXI H,2500H
MVI D,00H
MVI C,00H
LOOP:ADD M
JNC SKIP
INR C
SKIP:INX H
DCR B
JNZ LOOP
STA 2300H
MVI A,00H
MOV A,C
STA 2301H
HLT
```

3. Find the sum of the least significant 4 bits and most significant 4 bits of a byte stored in memory location 2500H. Store the result in 2550H.

```
LXI H,2500H
MOV A,M
MOV B,A
```

```
ANI 0FH
MOV C,A
MOV A,B
RRC
RRC
RRC
RRC
ANI 0FH
ADD C
STA 2550H
HLT
```

4. Write a program to count the '1's and '0's of a byte stored in 2500H. Store the result in 2610H and 2511H, respectively.

```
LXI H,2500H
MOV A,M
MVI D,00H
MVI C,08H
LOOP:RRC
JNC SKIP
INR D
SKIP:DCR C
JNZ LOOP
MOV A,D
STA 2610H
MVI A,08H
SUB D
STA 2611H
HLT
```

5. Write a program to sum two 16-bits binary numbers.

```
LHLD 2500H
XCHG
LHLD 2502H
DAD D
SHLD 2550H
HLT
```