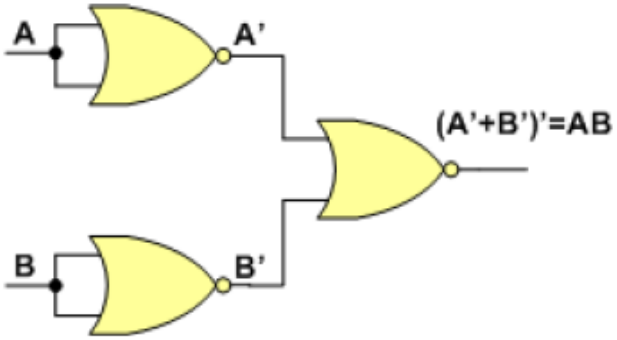
Assignments -2

1. Suppose, two 8-bit numbers X and Y are stored in memory. Write 8051 assembly language programme to calculate Z based on the following equation and store it in memory. Discard the remainder in division operation and C is a constant.

$$\boldsymbol{Z = (X + Y)/(X - Y) + C}$$

2. Write 8051 assembly language programme to implement the logic in following circuit.



3. Develop a program to compare two arrays of 10 elements each. If they are same, set carry flag else clear the carry.

4. Write an equivalent 8051 assembly language code.

```
int num;
while (num != 0) {
    rem = num % 10;
    sum = sum + rem;
    num = num / 10;
}
printf("sum: %d", sum); % integer part
```

5. Write an 8051-assembly language program which converts the Fahrenheit temperature to Celsius using the following relation:

C=(F-32)5/9

Assume you are getting the temperature value from a sensor which is connected through port 1.