

Control Structure (Selection)**Question 1**

What is the output for the following code?

a)

```
for (i=0; i < 2; i++)
    printf("^^");
printf("==");
```

b)

```
for (i=4; i < 8; i+=2)
    printf("^^");
printf("==");
```

Question 2

Based on the following code segment, answer the following questions:

```
int x = 4;
while (x <= 10)
{
    printf ("%d", x);
    x+=2;
}
```

- What is the output of the following code?
- What is the final value of variable x?
- Write the equivalent *for* loop and *do while* loop

Question 3

Write a program to ask user to enter a list of numbers.

- Check if user wish to keep entering a number.
- User will enter 'Y' to keep entering a number, 'N' to terminate the program.
- Refer to the sample output.

SAMPLE OUTPUT

```
Do you wish to enter a number? [Y/N]: Y
Enter a number: 12
You have entered: 12
```

```
Do you wish to enter a number? [Y/N]: Y
Enter a number: 100
You have entered: 100
```

```
Do you wish to enter a number? [Y/N]: N
Thank you! :)
```

Question 4

Using **for loop**, display “ I will get A+ for PD! =) ” for **FIVE (5)** times. Then, modify your code to use **while loop** and **do while loop**

SAMPLE OUTPUT

```
I will get A+ for PD! =)
I will get A+ for PD! =)
I will get A+ for PD! =)
I will get A+ for PD! =)
I will get A+ for PD! =)
```

Question 5

- The energy consumed to do work is called Power. Power for electric circuits can be calculated by the following formula.

$$Power = \frac{Voltage^2}{Resistance}$$

- Use a **while loop** to repeat the process as long as the user wants to.
 - Design the program using **flowchart** and **pseudocode**.
 - Write a **complete C program** based on your design.

SAMPLE OUTPUT

```
Enter 'Y' to continue: Y

Enter the Voltage value (Volt)      : 2.5
Enter the Resistance value (Ohms)   : 5

Voltage      : 2.50 Volts
Resistance    : 5.00 Ohms
Power        : 1.25 Watts
Enter 'Y' to continue: Y

Enter the Voltage value (Volt)      : 13
Enter the Resistance value (Ohms)   : 1.25

Voltage      : 13.00 Volts
Resistance    : 1.25 Ohms
Power        : 135.20 Watts
Enter 'Y' to continue: N
```