

Programming with C Language Tutorial 05 – Writing switch condition, while, do while & for loops

Switch

Input two numbers and display the outputs of the basic mathematic operations. The output screen should be displayed as follows;

```
Enter two numbers ____ ____
1. +
2. -
3. *
4. /
Please enter your choice ____
```

```
#include
```

```
#include
```

```
int main()
```

```
{
```

```
int opr,no1,no2;
```

```
printf("Enter two numbers-");
```

```
scanf("%d %d",&no1,&no2);
```

```
printf("1.+\\n2.-\\n3.*\\n4./\\n");
```

```
printf("Choose an option-");
```

```
scanf("%d",&opr);
```

```
switch(opr)
```

```
{
```

```
case 1:printf("%d",no1+no2);break;
```

```
case 2:printf("%d",no1-no2);break;
```

```
case 3:printf("%d",no1*no2);break;
```

```
case 4:printf("%.2f",(float)no1/no2);break;
default:printf("invalid");
}
return 0;
```

While Loop

1. Input 10 numbers and display the total count of odd & even numbers in the entered number series.

```
#include <stdio.h>
#include <stdlib.h>

int main()
{
    int no,n=1,oddc=0,evenc=0;
    while(n<=10)
    {
        printf("Enter the %d number-",n);
        scanf("%d",&no);
        if(no%2==0&&no!=0)
            evenc++;
        else if (no!=0)
            oddc++;
        n++;
    }
    printf("odd count is %d\n even count is %d\n",oddc,evenc);
    return 0;
}
```

2. Modify the above program in to enter series of numbers terminates when the user enter -99 and display the same expected output.

```
int main() {  
  
    int number, countOdd = 0, countEven = 0;  
  
    printf("Enter a series of numbers (terminate with -99):\n");  
  
    while (1) {  
  
        scanf("%d", &number);  
  
        if (number == -99) {  
  
            break;  
  
        }  
  
        if (number % 2 == 0) {  
  
            countEven++;  
  
        } else {  
  
            countOdd++;  
  
        }  
  
    }  
  
    printf("Count of even numbers: %d\n", countEven);  
    printf("Count of odd numbers: %d\n", countOdd);  
    return 0;  
}
```

Do while loop

Rewrite the programs for the above while loop question 1 & 2 using do while loop

Question 01.

```
#include <stdio.h>

int main() {

    int numbers[10];

    int i = 0, countOdd = 0, countEven = 0;

    printf("Enter 10 numbers:\n");

    do {

        scanf("%d", &numbers[i]);

        i++;

    } while (i < 10);

    i = 0;

    do {

        if (numbers[i] % 2 == 0) {

            countEven++;

        } else {

            countOdd++;

        }

        i++;

    } while (i < 10);

    printf("Count of even numbers: %d\n", countEven);

    printf("Count of odd numbers: %d\n", countOdd);

    return 0;

}
```

Question 02

```
#include <stdio.h>

int main() {

    int number, countOdd = 0, countEven = 0;

    printf("Enter a series of numbers (terminate with -99):\n");

    do {

        scanf("%d", &number);

        if (number == -99) {

            break;

        }

        if (number % 2 == 0) {

            countEven++;

        } else {

            countOdd++;

        }

    } while (1);

    printf("Count of even numbers: %d\n", countEven);

    printf("Count of odd numbers: %d\n", countOdd);

    return 0;

}
```

For Loop

1. Input 10 numbers and display the average value using the for loop

```
#include <stdio.h>

int main() {
    int numbers[10];
    int i;
    float sum = 0, average;
    printf("Enter 10 numbers:\n");
    for (i = 0; i < 10; i++) {
        scanf("%d", &numbers[i]);
        sum += numbers[i];
    }
    average = sum / 10;
    printf("Average value: %.2f\n", average);
    return 0;
}
```

2. Display the following output using the for loop

```
*
**
***
****
*****
```

```
#include <stdio.h>

int main() {

    for(int i=1;i<=5;i++) {
        for(int j=1;j<=i;j++) {
            printf("*");
        }
        printf("\n");
    }
}
```