

Tutorial 5

Switch

```
1.  int main()
    {
        double num1, num2;
        int choice;

        printf("Enter two numbers: ");
        scanf("%lf %lf", &num1, &num2);

        printf("1. +\n");
        printf("2. -\n");
        printf("3. *\n");
        printf("4. /\n");
        printf("Please enter your choice: ");
        scanf("%d", &choice);

        switch (choice)
        {
            case 1:
                printf("Result: %.2lf\n", num1 + num2);
                break;
            case 2:
                printf("Result: %.2lf\n", num1 - num2);
                break;
            case 3:
                printf("Result: %.2lf\n", num1 * num2);
                break;
            case 4:
                if (num2 != 0)
                    printf("Result: %.2lf\n", num1 / num2);
                else
                    printf("Error: Division by zero!\n");
                break;
            default:
                printf("Invalid choice!\n");
                break;
        }
    }
```

While Loop

1.

```
int main()
{

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

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

    while (i < 10)
    {
        printf("Number %d: ", i + 1);
        scanf("%d", &num);

        if (num % 2 == 0)
            countEven + 1;
        else
            countOdd + 1;

        i + 1;
    }

    printf("Total count of odd numbers: %d\n", countOdd);
    printf("Total count of even numbers: %d\n", countEven);

    return 0;
}
```
2.

```
int main()
{
    int num, countOdd = 0, countEven = 0;

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

    while (scanf("%d", &num) == 1 && num != -99)
    {
        if (num % 2 == 0)
            countEven + 1;
        else
            countOdd + 1;
    }

    printf("Total count of odd numbers: %d\n", countOdd);
    printf("Total count of even numbers: %d\n", countEven);

    return 0;
}
```

Do While Loop

```
1.  int main()
    {
        int num, countOdd = 0, countEven = 0;
        int i = 0;

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

        do {
            printf("Number %d: ", i + 1);
            scanf("%d", &num);

            if (num % 2 == 0)
                countEven++;
            else
                countOdd++;

            i++;
        }

        while (i < 10);

        printf("Total count of odd numbers: %d\n", countOdd);
        printf("Total count of even numbers: %d\n", countEven);
    }
```

```
2.  int main()
    {
        int num, countOdd = 0, countEven = 0;

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

        do {
            printf("Number: ");
            scanf("%d", &num);

            if (num != -99)
            {
                if (num % 2 == 0)
                    countEven++;
                else
                    countOdd++;
            }
        } while (num != -99);

        printf("Total count of odd numbers: %d\n", countOdd);
        printf("Total count of even numbers: %d\n", countEven);

        return 0;
    }
```

FOR Loop

```
1.  int main()
    {
        int num, sum = 0;
        double average;

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

        for (int i = 1; i <= 10; i++)
        {
            printf("Number %d: ", i);
            scanf("%d", &num);

            sum += num;
        }

        average = (double)sum / 10;

        printf("Average value: %.2f\n", average);

        return 0;
    }
```

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

        return 0;
    }
```