Basic C Program Example

1. Write a program to print Hello World.

Program:

```
#include<stdio.h>
void main()
{
    printf("Hello World");
}
```

Output:

```
Hello World
```

2. Program to find ASCII value of a given character.

Program:

```
#include <stdio.h>
void main()
{
   char ch;
   printf("Enter a Character: ");
   scanf("%c", &ch);
   printf("ASCII value of %c is %d", ch, ch);
}
```

Output:

```
Enter a Character: Z
ASCII value of Z is 90
```

Note:

Take input from %c means character format and output is %d integer format.

3. Add two Integer Number.

Program:

```
#include<stdio.h>
void main()
{
   int num1, num2, add;
   printf("Enter first number = ");
   scanf("%d", &num1);
   printf("Enter second number = ");
   scanf("%d", &num2);
   add = num1 + num2;
   printf("Addition is = %d", add);
}
```

Output:

```
Enter first number = 10
Enter second number = 22
Addition is = 32
```


4. Swap two number using third variable.

Program:

```
#include <stdio.h>
void main()
{
   int num1, num2, temp;
   printf("Enter first number = ");
```

```
    scanf("%d", &num1);
    printf("Enter second number = ");
    scanf("%d", &num2);
    temp = num1;
    num1 = num2;
    num2 = temp;
    printf("After Swapping Value is - ");
    printf("\nFirst number = %d", num1);
    printf("\nSecond number = %d", num2);
}
```

Output:

```
Enter first number = 22
Enter second number = 65
After Swapping Value is -
First number = 65
Second number = 22
```

5. Swap two number without using third variable.

Program:

```
#include<stdio.h>
void main()
{
    int a, b;
    printf("Enter a first number = ");
    scanf("%d", &a);
    printf("Enter second number = ");
```

```
    scanf("%d", &b);
    a = a + b;
    b = a - b;
    a = a - b;
    printf("After Swapping Value is - ");
    printf("\nFirst number = %d", a);
    printf("\nSecond number = %d", b);
}
```

Output:

```
Enter a first number = 7
Enter second number = 3
After Swapping Value is -
First number = 3
Second number = 7
```

6. Calculate the Average of two number.

Program:

```
#include<stdio.h>
void main()
{
    int num1, num2;
    float avg;
    printf("Enter first number = ");
    scanf("%d", &num1);
    printf("Enter second number = ");
    scanf("%d", &num2);
```

```
    avg = (float)(num1 + num2)/2;
    printf("Average of %d and %d is: %f",num1,num2,avg);
}
```

Output:

```
Enter first number = 8
Enter second number = 3
Average of 8 and 3 is: 5.500000
```

Note:

Here the result of the two numbers is converted into float datatype.

7. Calculate the Cube of a number.

Formula: Cube of Number = Number * Number * Number

Program:

```
#include <stdio.h>
void main()
{
    int number;
    printf("Enter a number = ");
    scanf("%d", &number);
    number = number * number * number;
    printf("Cube of a number is = %d", number);
}
```

Output:

```
Enter a number = 5
Cube of a number is = 125
```

8. Calculate the Area of a Circle.

Formula: Area of Circle = 3.14 * Radius * Radius

Program:

```
#include <stdio.h>
void main()
{
  float radius, area;
  printf("Enter the Radius of Circle = ");
  scanf("%f", &radius);
  area = 3.14 * radius * radius;
  printf("Area of Circle is = %f", area);
}
```

Output:

```
Enter the Radius of Circle = 5
Area of Circle is = 78.500000
```

9. Calculate the Area of a Rectangle.

Formula: Area of Rectangle = Length of Rectangle * Width of Rectangle

Program:

```
#include<stdio.h>
void main()
{
   float length, width, area;
   printf("Enter Length of Rectangle = ");
   scanf("%f", &length);
   printf("Enter Width of Rectangle = ");
```

```
    scanf("%f", &width);
    area = length * width;
    printf("Area of Rectangle is = %f ", area);
}
```

Output:

```
Enter Length of Rectangle = 3.5
Enter Width of Rectangle = 6.8
Area of Rectangle is = 23.800001
```

10. Calculate the Area of a Square.

Formula: Area of Square = Side * Side

Program:

```
#include<stdio.h>
void main()
{
    int side, area;
    printf("Enter the Side of Square = ");
    scanf("%d", &side);
    area = side * side;
    printf("Area of Square is = %d", area);
}
```

Output:

```
Enter the Side of Square = 4
Area of Square is = 16
```

11. Calculate the Simple Interest.

Formula: Simple Interest = (Principal Amount * Rate of Interest * Time) / 100

Program:

```
#include<stdio.h>
void main()
{
   float principal_amount, time, rate, simple_interest;
   printf("Enter Principal Amount = ");
   scanf("%f", &principal_amount);
   printf("Enter Time = ");
   scanf("%f", &time);
   printf("Enter Rate of Interest = ");
   scanf("%f", &rate);
   simple_interest = (principal_amount * time * rate) / 100;
   printf("Simple Interest is = %f", simple_interest);
}
```

Output:

```
Enter Principal Amount = 3453
Enter Time = 2
Enter Rate of Interest = 6.9
Simple Interest is = 476.514038
```

12. Convert Meters into Kilometres.

Formula: Divide the length value by 1000.

Program:

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

```
void main()
{
   float meter, km;
   printf("Enter the Distance (in meters) = ");
   scanf("%f", &meter);
   km = meter / 1000;
   printf("%.2f meters = %.2f Kilometres", meter, km);
}
```

Output:

```
Enter the Distance (in meters) = 786
786.00 meters = 0.79 Kilometres
```

13. Convert Kilometres into Meters.

Formula: Multiply the distance value by 1000.

Program:

```
#include <stdio.h>
void main()
{
   float meter, km;
   printf("Enter the Distance (in kilometres) = ");
   scanf("%f", &km);
   meter = km * 1000;
   printf("%.2f km = %.2f meters", km, meter);
}
```

Output:

```
Enter the Distance (in kilometres) = 78.3
```

78.30 km = 78300.00 meters

14. Convert Miles into Kilometres.

Formula: Multiply the distance value by 1.60934.

Program:

```
#include <stdio.h>
void main()
{
  float miles, kilometres;
  printf("Enter distance in Miles = ");
  scanf("%f", &miles);
  kilometres = miles * 1.60934;
  printf("%.2f Miles = %.2f Kilometre", miles, kilometres);
}
```

Output:

```
Enter distance in Miles = 43
43.00 Miles = 69.20 Kilometre
```

15. Convert Feet into Meters.

Formula: Divide the value by 3.281.

Program:

```
#include<stdio.h>
void main()
{
  float feet, meter;
  printf("Enter distance in Feet = ");
  scanf("%f", &feet);
```

```
  meter = feet / 3.281;
  printf ("%.2f Feet = %.2f Meter”, feet, meter);
}
```

Output:

```
Enter distance in Feet = 45
45.00 Feet = 13.72 Meter
```

16. Convert temperature from Fahrenheit to Celsius.

Program:

```
#include<stdio.h>
void main()
{
   float celsius,fahrenheit;
   printf("Enter Temperature in Fahrenheit = ");
   scanf("%f",&fahrenheit);
   celsius = (fahrenheit - 32)*5/9;
   printf("Celsius = %f",celsius);
}
```

Output:

```
Enter Temperature in Fahrenheit = 120
Celsius = 48.888889
```

17. Convert temperature from Celsius to Fahrenheit.

Program:

```
#include<stdio.h>
void main()
{
```

```
    float celsius, fahrenheit;
    printf("Enter Temperature in Celsius = ");
    scanf("%f", &celsius);
    fahrenheit =((celsius*9)/5)+32;
    printf("Fahrenheit = %f", fahrenheit);
}
```

Output:

```
Enter Temperature in Celsius = 48.888889
Fahrenheit = 120.000000
```

18. Person height from Inches to Centimeter.

Formula: Multiply the length value by 2.54.

Program:

```
#include<stdio.h>
void main()
{
    float inch, cm;
    printf("Enter length in Inch: ");
    scanf("%f", &inch);
    cm = inch * 2.54;
    printf("Equivalent length in Centimeters = %0.2f", cm);
}
```

Output:

```
Enter length in Inch: 4
Equivalent length in Centimeters = 10.16
```

Note:

Here we have used the format specifier of floating-point as %0.2f to print the value upto its 2-decimal place.

19. Convert Kilogram to Gram.

Formula: Multiply the weight by 1000.

Program:

```
#include<stdio.h>
void main()
{
   float kg, gram;
   printf("Enter weight in Kilogram: ");
   scanf("%f", &kg);
   gram = kg*1000;
   printf("Equivalent weight in Gram = %0.2f", gram);
}
```

Output:

```
Enter weight in Kilogram: 300
Equivalent weight in Gram = 300000.00
```

20. Convert Kilogram to Pound.

Formula: Multiply the weight by 2.205

Program:

```
#include<stdio.h>
void main()
{
        float kg, pound;
        printf("Enter weight in Kilogram: ");
```

```
    scanf("%f", &kg);
    pound = kg*2.205;
    printf("Equivalent weight in pound = %0.2f", pound);
}
```

Output:

```
Enter weight in Kilogram: 6
Equivalent weight in pound = 13.23
```

21. Convert Gram to Pound.

Formula: Divide the weight by 454

Program:

```
#include<stdio.h>
void main()
{
    float gram, pound;
    printf("Enter weight in Gram: ");
    scanf("%f", &gram);
    pound = gram/454;
    printf("Equivalent weight in pound = %0.2f", pound);
}
```

Output:

```
Enter weight in Gram: 260
Equivalent weight in pound = 0.57
```