

C Programming Language


--Basic Programs to Practice—

Day 01



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1. Program to print Hello World!

C first.c >  main()

```
1 // Program to print Hello World!
2 #include<stdio.h>
3 void main()
4 {
5     printf("Hello world!");
6 }
```

PROBLEMS

OUTPUT

DEBUG CONSOLE

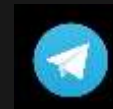
TERMINAL

 Code + -   ... ^ X

```
PS C:\c all progams> cd "c:\c all progams\" ; if ($?) { gcc first.c -o first } ; if ($?) { .\first }
```


```
Hello world!
```

```
PS C:\c all progams>
```



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2. Program to add two numbers by taking values from user.

C add.c >  main()

```
1 // Program to add two numbers by taking values from the user.
2 #include<stdio.h>
3 void main()
4 {int a,b,sum=0;
5   printf("Enter the values of a and b:\n");
6   scanf("%d%d",&a,&b);
7   sum=a+b;
8   printf("Sum=%d",sum);
9 }
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

 Code + -   ... ^ X

```
PS C:\c all progams> cd "c:\c all progams\" ; if ($?) { gcc add.c -o add } ; if ($?) { .\add }
```

```
Enter the values of a and b:
```

```
10
```

```
20
```

```
Sum=30
```

```
PS C:\c all progams> █
```



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3. Program to calculate area of circle.

C areacircle.c > ...

```
1  // Program to calculate area of circle.
2  #include<stdio.h>
3  #define PI 3.14
4  void main()
5  { float radius,area;
6    printf("Enter the radius of the circle:\n");
7    scanf("%f",&radius);
8    area=PI*radius*radius;
9    printf("Area of circle with radius %f is %f",radius,area);
10 }
11 |
```

PROBLEMS

OUTPUT

DEBUG CONSOLE

TERMINAL

+ v ... ^ X

```
PS C:\c all progams> cd "c:\c all progams\" ; if ($?) { gcc areacircle.c -o areacircle } ; if ($?) { .\areacircle }
Enter the radius of the circle:
10.2
Area of circle with radius 10.200000 is 326.685577
PS C:\c all progams> 
```

> Code

> Code



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4. Program to calculate area of triangle.

C areatrnge.c > ...

```
1  // Program to calculate area of triangle.
2  #include<stdio.h>
3  void main()
4  {  float b,h,area;
5      printf("Enter base and height of triangle:\n");
6      scanf("%f%f",&b,&h);
7      area=(b*h)/2;
8      printf("Area=%f",area);
9  }
10
```

PROBLEMS

OUTPUT

DEBUG CONSOLE

TERMINAL

 Code     ... ^ X


.\areatrnge }

Enter base and height of triangle:

6

10


Area=30.000000

PS C:\c all progams> 



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5. Program to calculate area of triangle using Heron's formula.

C areatriangleherons.c >  main()

```
1  // Program to calculate area of triangle using Heron's formula
2  #include<stdio.h>
3  #include<math.h>
4  void main()
5  {
6      float a,b,c,s,area;
7      printf("Enter the length of three sides of triangle:\n");
8      scanf("%f%f%f",&a,&b,&c);
9      s=(a+b+c)/2;
10     area=sqrt(s*(s-a)*(s-b)*(s-c));
11     printf("Area=%f",area);
12 }
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

 Code + -   ... ^ X


Enter the length of three sides of triangle:

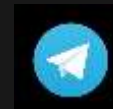
10

10

10

Area=43.301270

PS C:\c all progams> 



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6. Program to calculate distance between two points.

```
C distancebwpnts.c > main()
1 // Program to calculate distance between two points.
2 #include<stdio.h>
3 #include<math.h>
4 void main()
5 {
6     float x1,x2,y1,y2,distance;
7     printf("Enter the co-ordinates of first point(x1,y1):\n");
8     scanf("%f%f",&x1,&y1);
9     printf("Enter the co-ordinates of second point(x2,y2):\n");
10    scanf("%f%f",&x2,&y2);
11    distance=sqrt(pow((x2-x1),2)+pow((y2-y1),2));
12    printf("The distance between two points is:%f",distance);
13 }
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

 Code    ... ^ X

```
Enter the co-ordinates of first point(x1,y1):
10
5
Enter the co-ordinates of second point(x2,y2):
6
3
The distance between two points is:4.472136
PS C:\c all progams> 
```



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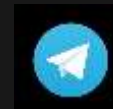
7. Program to swap two numbers using temporary variable.

```
C swaptemp.c > main()
1  //Program to swap two numbers using temporary variable.
2  #include<stdio.h>
3  void main()
4  {   int a,b,temp;
5      a=10,b=5;
6      printf("Before swapping values of\n");
7      printf("a=%d\tb=%d\n",a,b);
8      temp=a;
9      a=b;
10     b=temp;
11     printf("After swapping values of\n");
12     printf("a=%d\tb=%d",a,b);
13 }
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

 Code     ... ^ X

```
Before swapping values of
a=10    b=5
After swapping values of
a=5     b=10
PS C:\c all programs>
```



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8. Program to swap two numbers without using temporary variable.

*Method 1

```
C swapwithouttemp.c > main()
1 //Program to swap two numbers without using temporary variable.
2 #include<stdio.h>
3 void main()
4 { int a,b;
5   printf("Enter the values for a and b:\n");
6   scanf("%d%d",&a,&b);
7   printf("Before swapping values of a and b:\n");
8   printf("a=%d\tb=%d\n",a,b);
9   a=a+b;
10  b=a-b;
11  a=a-b;
12  printf("After swapping values of a and b:\n");
13  printf("a=%d\tb=%d",a,b);
14 }
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

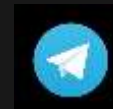
```
Enter the values for a and b:
10
20
Before swapping values of a and b:
a=10    b=20
After swapping values of a and b:
a=20    b=10
PS C:\c all progams> |
```

*Method 2

```
C swapwithouttemp.c > main()
16 //Program to swap two numbers without using temporary variable.
17 #include<stdio.h>
18 void main()
19 { int a,b;
20   printf("Enter the values for a and b:\n");
21   scanf("%d%d",&a,&b);
22   printf("Before swapping values of a and b:\n");
23   printf("a=%d\tb=%d\n",a,b);
24   a=a*b;
25   b=a/b;
26   a=a/b;
27   printf("After swapping values of a and b:\n");
28   printf("a=%d\tb=%d",a,b);
29 }
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
PS C:\c all programs> cd "c:\c all programs\" ; if ($?) { gcc swapwithouttemp.c -o swapwithouttemp } ; if ($?) { .\swapwithouttemp }
Enter the values for a and b:
20
10
Before swapping values of a and b:
a=20    b=10
After swapping values of a and b:
a=10    b=20
PS C:\c all programs> |
```



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9. Program to convert degrees Fahrenheit into degrees Celsius.

C fahrintocelsius.c > main()

```
1 // Program to convert degrees fahrenheit into degree celsius.
2 #include<stdio.h>
3 void main()
4 {
5     float f,c;
6     printf("Enter the temperature in fahrenheit:\n");
7     scanf("%f",&f);
8     c=((f-32)*(5.0/9.0));
9     printf("Temperature in degree celsius :%f",c);
10 }
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

Code + - [] [X] ... ^ X

```
PS C:\c all progams> cd "c:\c all progams\" ; if ($?) { gcc fahrintocelsius.c -o fahrintocelsius } ;
if ($?) { .\fahrintocelsius }
```

Enter the temperature in fahrenheit:

99

Temperature in degree celsius :37.222221

PS C:\c all progams>



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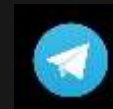
10. Program to print ASCII value of a character.

```
C asci.c > main()
1 // Program to print ASCII value of a character.
2 #include<stdio.h>
3 void main()
4 {
5     char ch;
6     printf("Enter any character:");
7     scanf("%c",&ch);
8     printf("The ascii value of %c is %d",ch,ch);
9 }
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

 Code + -   ... ^ X

```
PS C:\c all progams> cd "c:\c all progams\" ; if ($?) { gcc asci.c -o ascii } ; if ($?) { .\ascii }
Enter any character:c
The ascii value of c is 99
PS C:\c all progams> 
```



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