

* Purpose : Classwork

* Date : 19/12/2025

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1. Code : Write a program to display the message “Hello World!” on the screen using the C programming language.

```
C first.c    X
C first.c > ...
1 #include <stdio.h>
2
3 int main(){
4     printf("Hello World!...\\n");
5     return 0;
6 }
7
```

Output :

```
PS C:\Users\VIKAS SRIVASTAVA\OneDrive\Desktop\C_CPP\Day_1\Classwork> gcc first.c
PS C:\Users\VIKAS SRIVASTAVA\OneDrive\Desktop\C_CPP\Day_1\Classwork> .\a.exe
Hello World!...
```

2. Code : Write a Program to checks whether a specific bit position in a number is ON (1) or OFF (0).

```
C bitOnOff.c > ...
1 //check Bit on And off
2
3 #include <stdio.h>
4
5 int main(){
6     int num, pos;
7     num = 10, pos = 2;
8     int res = (num & 1 << pos);
9     printf("%d pos in %d is %s\\n", pos, num, (res ?
10        "ON": "OFF"));
11 }
```

Output :

```
P:\Day_1\Classwork> gcc bitonoff.c
PS C:\Users\VIKAS SRIVASTAVA\OneDrive\Desktop\C_CPP\Day_1\Classwork> .\a.exe
2 pos in 10 is OFF
PS C:\Users\VIKAS SRIVASTAVA\OneDrive\Desktop\C_CPP\Day_1\Classwork>
```

3. Code : Write a Program to demonstrates implicit type conversion in C.

```
C DataTypeImplicit.c X
C DataTypeImplicit.c > ...
1 //Check implicit Datatype Operations.
2
3 #include <stdio.h>
4
5 int main()
6 {
7     int i = 7;
8     float f = 2.0;
9     char c = 'B'; // ASCII = 66
10
11    printf("i + f = %f\n", i + f); // int + float
12    printf("i / 2 = %d\n", i / 2); // integer division
13    printf("i / f = %f\n", i / f); // int / float
14    printf("c + i = %d\n", c + i); // char + int
15
16    printf("i > f = %d\n", i > f); // relational
17    printf("(i > 5) && (f < 5) = %d\n",
18        (i > 5) && (f < 5)); // logical
19
20    return 0;
21 }
22
```

Output :

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

PS C:\Users\VIKAS SRIVASTAVA\OneDrive\Desktop\C_CPP\Day_1\Classwork> gcc DataTypeImplicit.c
PS C:\Users\VIKAS SRIVASTAVA\OneDrive\Desktop\C_CPP\Day_1\Classwork> .\a.exe
i + f = 9.000000
i / 2 = 3
i / f = 3.500000
c + i = 73
i > f = 1
(i > 5) && (f < 5) = 1
```

4. **Code** : Write a Program to shows how the same binary value is interpreted differently when treated as signed and unsigned data types.

```
C dataTypeOne.c X

C dataTypeOne.c > ...
1 #include <stdio.h>
2
3 int main(){
4     short var = -1;
5
6     printf("Short Signed: %d\t\tShort Unsigned: %hu\n", var, var);
7
8 }
9
```

Output :

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

PS C:\Users\VIKAS SRIVASTAVA\OneDrive\Desktop\C_CPP\Day_1\Classwork> .\a.exe
Short Signed: -1          Short Unsigned: 65535
```

5. **Code** : Write a program to demonstrate the working of a do-while loop by printing numbers from 0 to 10.

```
C doWhile.c X

C doWhile.c > ...
1 #include <stdio.h>
2
3 int main(){
4
5     int cnt = 0 ;//initialization
6     do {
7         printf("%d ", cnt);
8         cnt++; //alter or update
9     }while (cnt <= 10); //condition checking
10    printf("\n");
11 }
```

Output :

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

PS C:\Users\VIKAS SRIVASTAVA\OneDrive\Desktop\C_CPP\Day_1\Classwork> gcc doWhile.c
PS C:\Users\VIKAS SRIVASTAVA\OneDrive\Desktop\C_CPP\Day_1\Classwork> .\a.exe
0 1 2 3 4 5 6 7 8 9 10
```

6. **Code :** Write a program to demonstrate a menu-driven application using a do-while loop and switch-case, where the user selects an option and the program executes the corresponding choice until an invalid option is entered.

```
C menuOne.c X
C menuOne.c > main()
1 #include <stdio.h>
2
3 int main(){
4     int choice;
5     do {
6         printf("Enter the choice: ");
7         scanf("%d", &choice);
8         switch(choice){
9             case 1:
10                 printf("You have chosen Edge\n");
11                 //Later when functions are introduced
12                 break;
13             case 2:
14                 printf("You have chosen Python\n");
15                 //Later when functions are introduced
16                 break;
17             case 3:
18                 printf("You have chosen Java\n");
19                 //Later when functions are introduced
20                 break;
21             default:
22                 printf("No such option Available\n");
23                 return 1;
24         }
25     }while(1); //Always true here
26
27 }
28 }
```

Output :

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
PS C:\Users\VIKAS SRIVASTAVA\OneDrive\Desktop\C_CPP\Day_1\Classwork> gcc menuOne.c
PS C:\Users\VIKAS SRIVASTAVA\OneDrive\Desktop\C_CPP\Day_1\Classwork> .\a.exe
Enter the choice: 1
You have chosen Edge
Enter the choice: 2
You have chosen Python
Enter the choice: 3
You have chosen Java
Enter the choice: 4
No such option Available
```