

* **Purpose** : Classwork

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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 :

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

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: %hd\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
```