Experiment 2

Function Overloading, ambiguities in function overloading and default argument to functions

Program 1) Define four function int absolute(int); float absolute(float); double absolute(float); long absolute(long); From the main function call absolute (-5);absolute (-5.5); absolute(10L);absolute (-10.11); and check which functions are invoked.

```
1   #include<iostream>
2   using namespace std;
3   int absolute(int x){
4       if(x<0){ return (-x); }
5       else{ return x; }
6   }
7   float absolute(float x){
8       if(x<0){ return (-x); }
9       else{ return x;  }
10  }
11  double absolute(double x){
12      if(x<0){ return (-x);  }
13      else{ return x; }
14  }
15  long absolute(long x){
16      if(x<0){ return (-x);  }
17      else{  return x;  }
18  }
19  int main(){
20      cout<<absolute(-5)<<endl;
21      cout<<absolute(-5.5)<<endl;
22      cout<<absolute(10L)<<endl;
23      cout<<absolute(-10.11f)<<endl;
24  }
```

```
PROBLEMS   DEBUG CONSOLE   TERMINAL
✓ TERMINAL

5
5.5
10
10.11
shyam@shyam-HP-Laptop-15-da0xxx:~/Desktop/oopLAB/laboratory1/questions$
```

Program 2) Declare function void show(const char*s){cout<<"hello"<<s <<endl;} void show(...){cout<<"Hi"<<endl;}. Invoke show("c++ labs"); int x=5; show(6);and predict the outputs. State reasons for such output.

Predicted Output:-

hello c++ labs

Hi

This is because when the first function is invoked the it is calling the first show function which is printing “hello c++ labs” by accepting “c++ labs” from the parameter and when the second show function is invoked then the three dots will make that function to support variable number of arguments so it will be called and Hi will be printed.

```
shyam@shyam-HP-Laptop-15-da0xxx:~/Desktop/oopLAB/laboratory1/questions$ ./1
hello C++ labs
Hi
shyam@shyam-HP-Laptop-15-da0xxx:~/Desktop/oopLAB/laboratory1/questions$
```

Program 3) Define a function int findArea(int len=2,int wid=1){ return lent*wid;} Call findArea();findArea(5);findArea(6,5). In each case predict the result with your actual output.State reason.

Predicted Output:-

2

5

30

```cpp
#include<iostream>
using namespace std;
int findArea(int len=2,int wid=1){
    return len*wid;
}
int main(){
    cout<<findArea()<<endl;
    cout<<findArea(5)<<endl;
    cout<<findArea(6,5)<<endl;
}
```

PROBLEMS DEBUG CONSOLE TERMINAL

TERMINAL

```
shyam@shyam-HP-Laptop-15-da0xxx:~/Desktop/oopLAB/laboratory1/questions$ g++ 3.cpp -o 1
shyam@shyam-HP-Laptop-15-da0xxx:~/Desktop/oopLAB/laboratory1/questions$ ./1
2
5
30
shyam@shyam-HP-Laptop-15-da0xxx:~/Desktop/oopLAB/laboratory1/questions$
```

Submitted By :- Shyam Tiwari
Signature :-
Date:-