CHANDIGARH UNIVERSITY
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LAB MST _ WORKSHEET

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STUDENT'S UID – 20BCS4643

CLASS AND GROUP –CSE-IOT(GROUP B)

SEMESTER – 2ND

Question-

WAP to find area of rectangle using constructor overloading. Also define destructor to
delete the memory allocated to objects

Answer-

* Lab mst worksheet.

Page No.
Date

Student name :- Shinde smita
student uid :- 20BCS4649
Class / group :- CSE-IOT (GTD-B)
Date - 31-03-2021

* Aim :-

Wap to find area of rectangle using constructor overloading. Also define destructor to delete memory allocated to objects.

* Algorithm :-

step-1

Creating header file for input output stream and define the context.

step-2

create a class name area and include the int variable l, b, a;

step-3

create a class constructor having same name area without taking any argument as intilize the values of l and b as 10, 20 and print values of length and breadth.

step-4

~~create a class constructor~~ create a member function calc() for calculating area of rectangle.

step-5

create a member function print() for priting the output of area.

step 7 -

Declare a destructor ~area() for deallo-cating the memory allocated to the constructor.

step 8 -

Declare the int main function. create area obj1 and another area obj. 2 with l, b passing arguments in area constructor.

step 9 - call the calc() member function for obj1 & obj 2.

Step 10 - call the print() member function for printing output.

Stop.

* program code :-

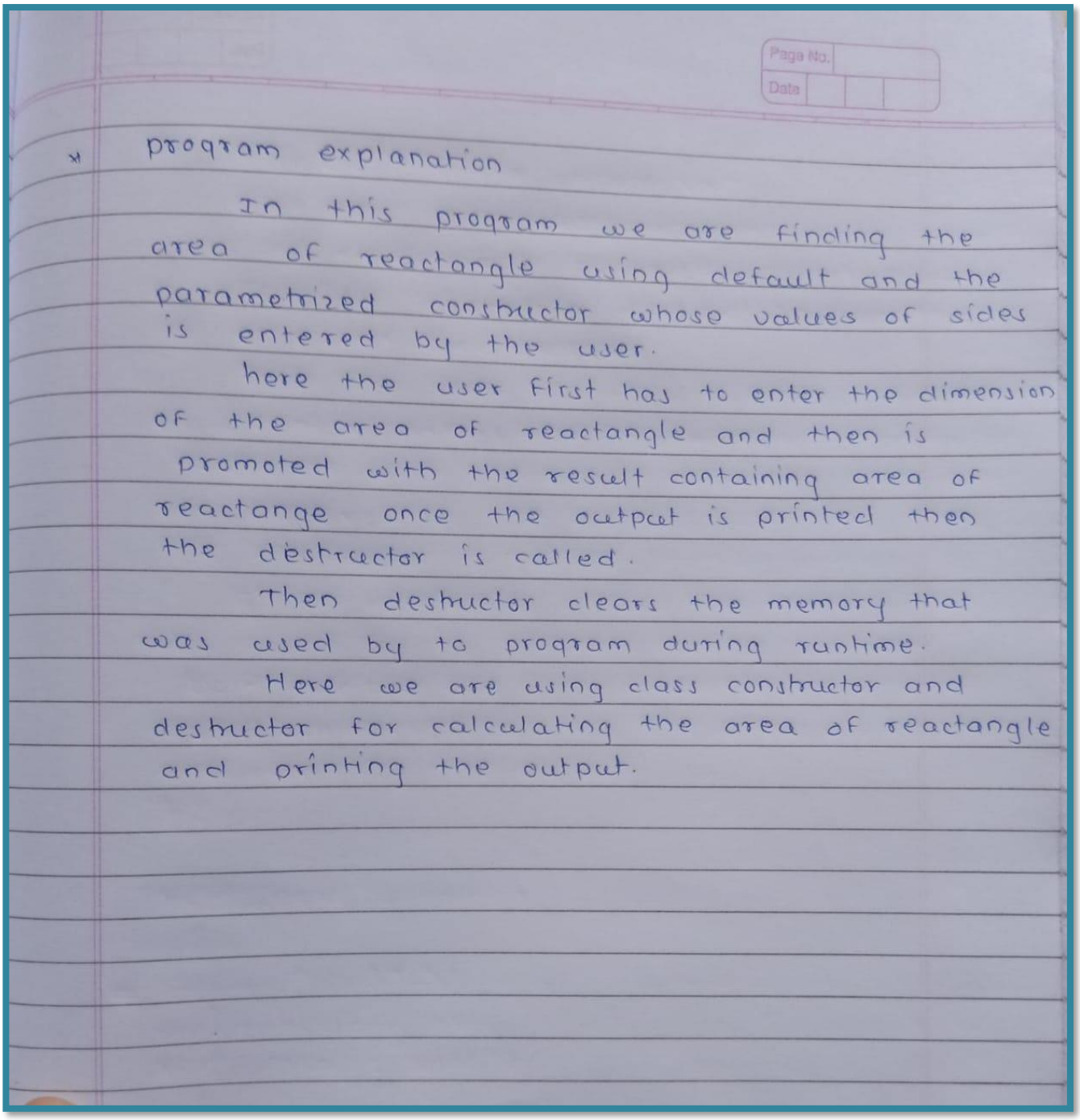
```
# include <iostream>
using namespace std;
class area
{
    int a, l, b;
    public:
    area()    // simple constructor definition
    {
        l = 10;
        b = 20;
```

```
cout << " SMITA SHINDE \n" ;
cout << " UID - 20BCS4643 \n " ;
cout << " simple constructor called \n" ;
cout << " Length =" << L << " \n breadth = "
     << b << endl;
}
area ( int x, int y)  // parameterised constructor
{
    L = x;
    b = y;
}

Void calc ();
void print ();
~ area ();
};

void area :: calc()
{
    a = l * b;
}
void area :: print ()
{
    cout << " Area is : " << a << endL;
}

area :: ~ area ()
{
  cout << "object is being deleted" << end;
}
```

```
int main ()
{
    int l, b;
area obj1;      // simple constructor is called
obj1. calc();
obj1. print();
cout << " Enter length and breadth for
        parameterized \t \n   constructor \n;
cin >> l >> b;

area obj2;      // parameterized constructor
                   is called.
obj2. calc();
obj2. print();
return 0;
}
```

* Errors -

No any error.



Page No.
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* program explanation

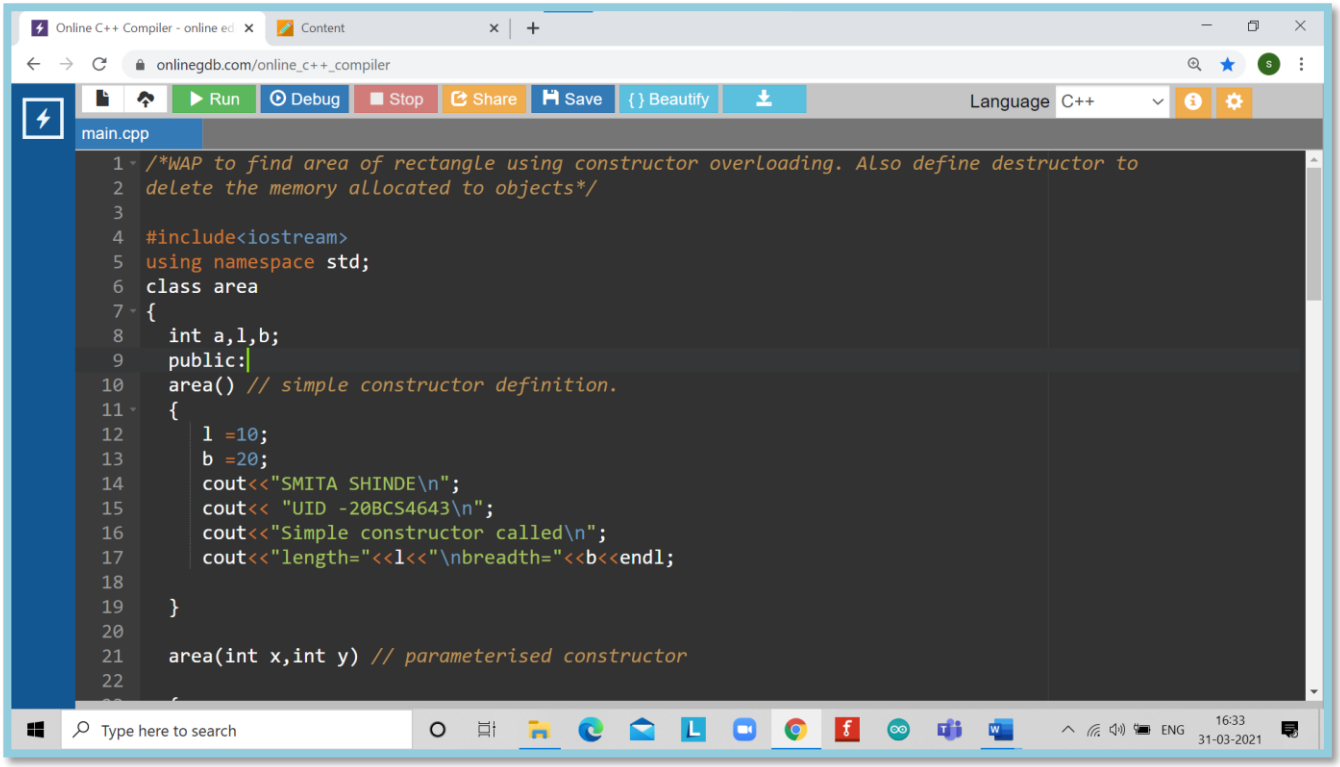
In this program we are finding the area of reactangle using default and the parametrized constructor whose values of sides is entered by the user.

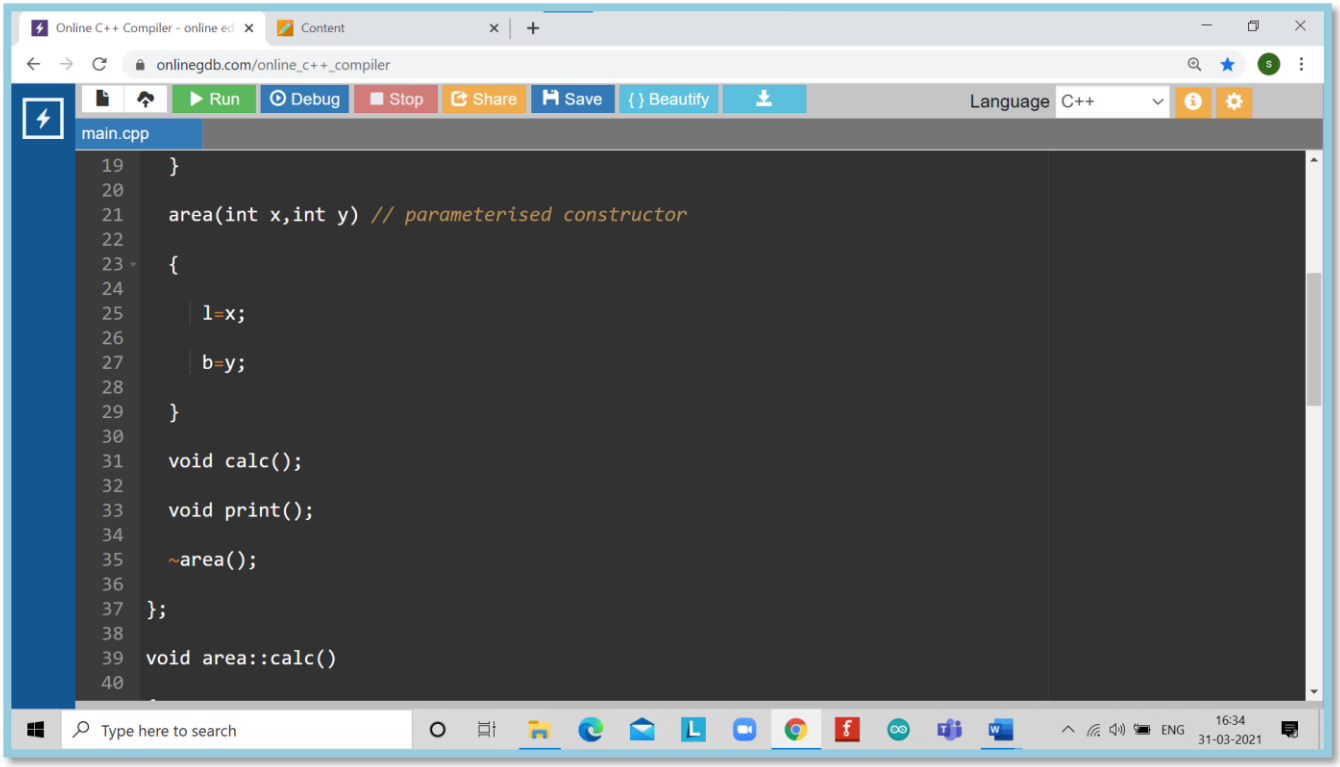
here the user first has to enter the dimension of the area of reactangle and then is promoted with the result containing area of reactange once the output is printed then the destructor is called.

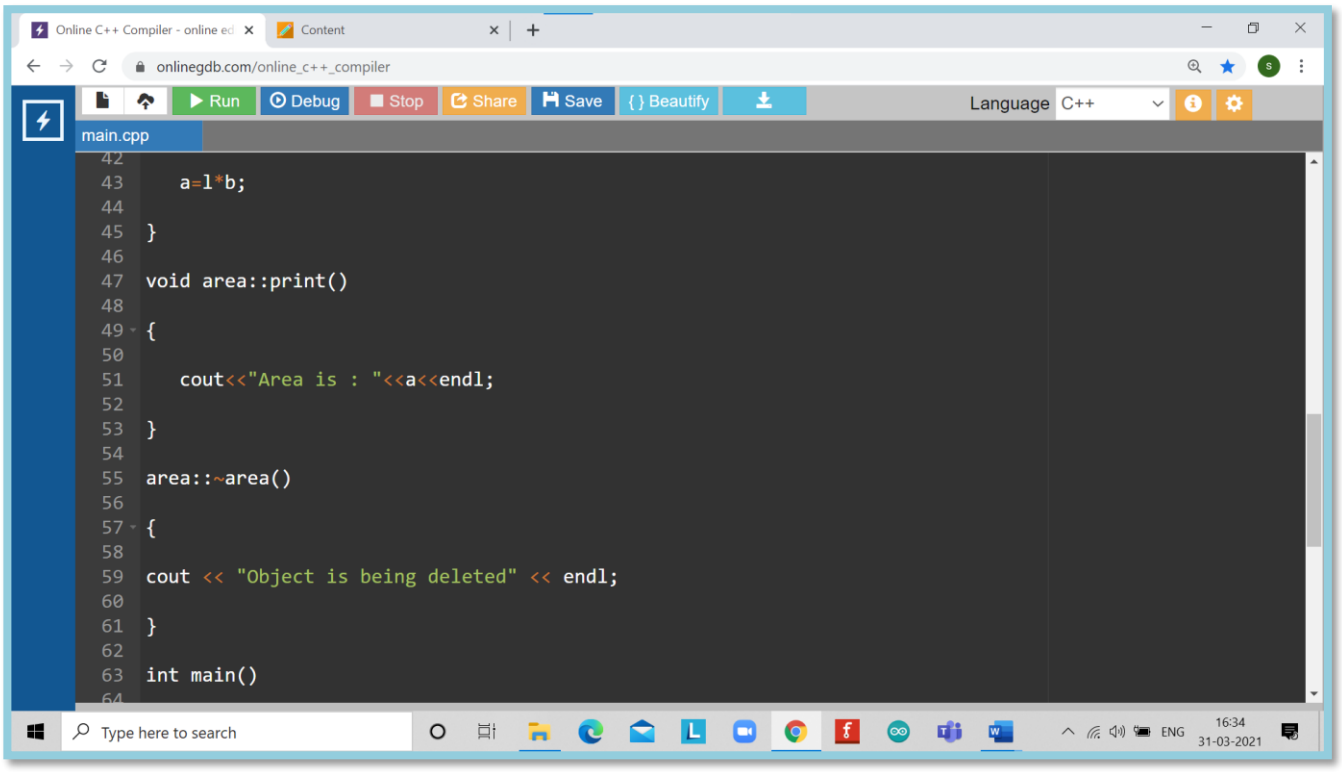
Then destructor clears the memory that was used by to program during runtime.

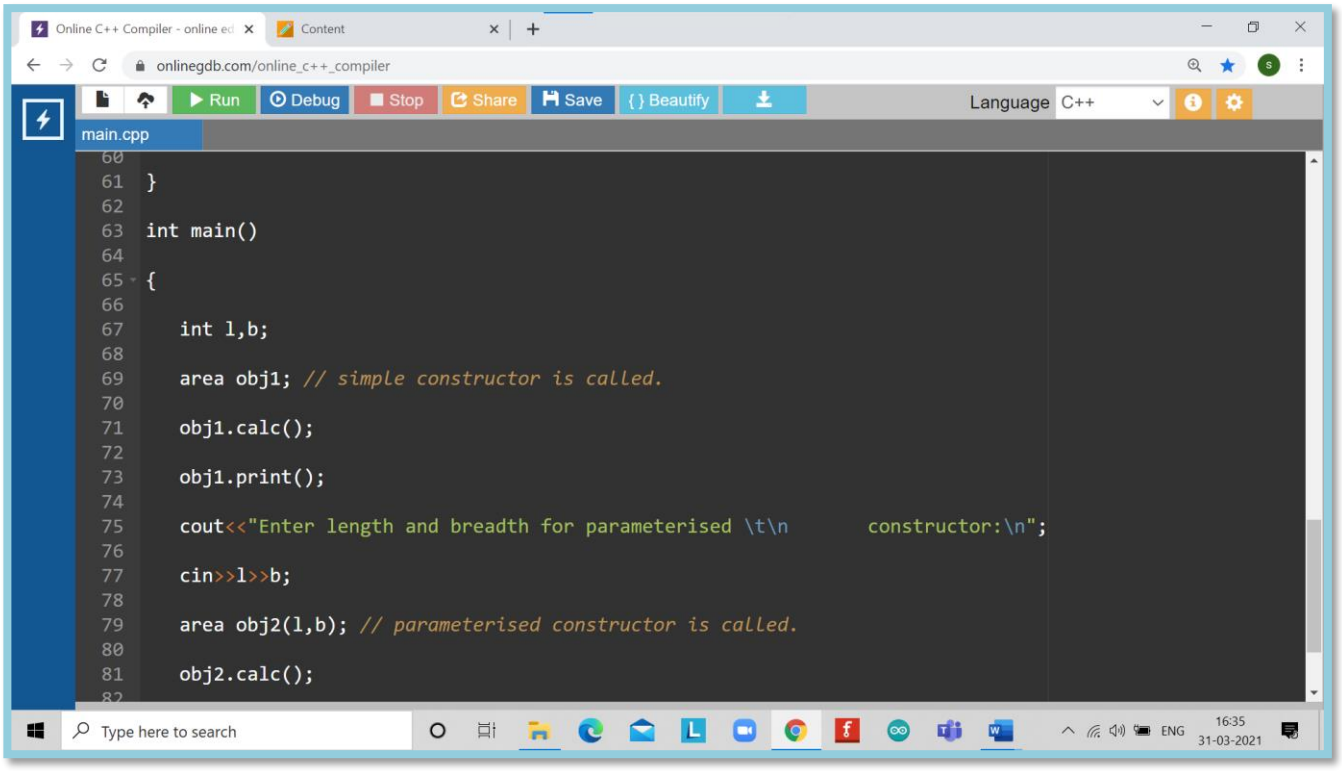
Here we are using class constructor and destructor for calculating the area of reactangle and orinting the output.

PROGRAM CODE






Online C++ Compiler - online ed
Content
onlinegdb.com/online_c++_compiler
Run
Debug
Stop
Share
Save
{ } Beautify
Language C++
main.cpp
a=l*b;
}
void area::print()
{
cout<<"Area is : "<<a<<endl;
}
area::~area()
{
cout << "Object is being deleted" << endl;
}
int main()
Type here to search
ENG
16:34
31-03-2021


Online C++ Compiler - online ed
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Run
Debug
Stop
Share
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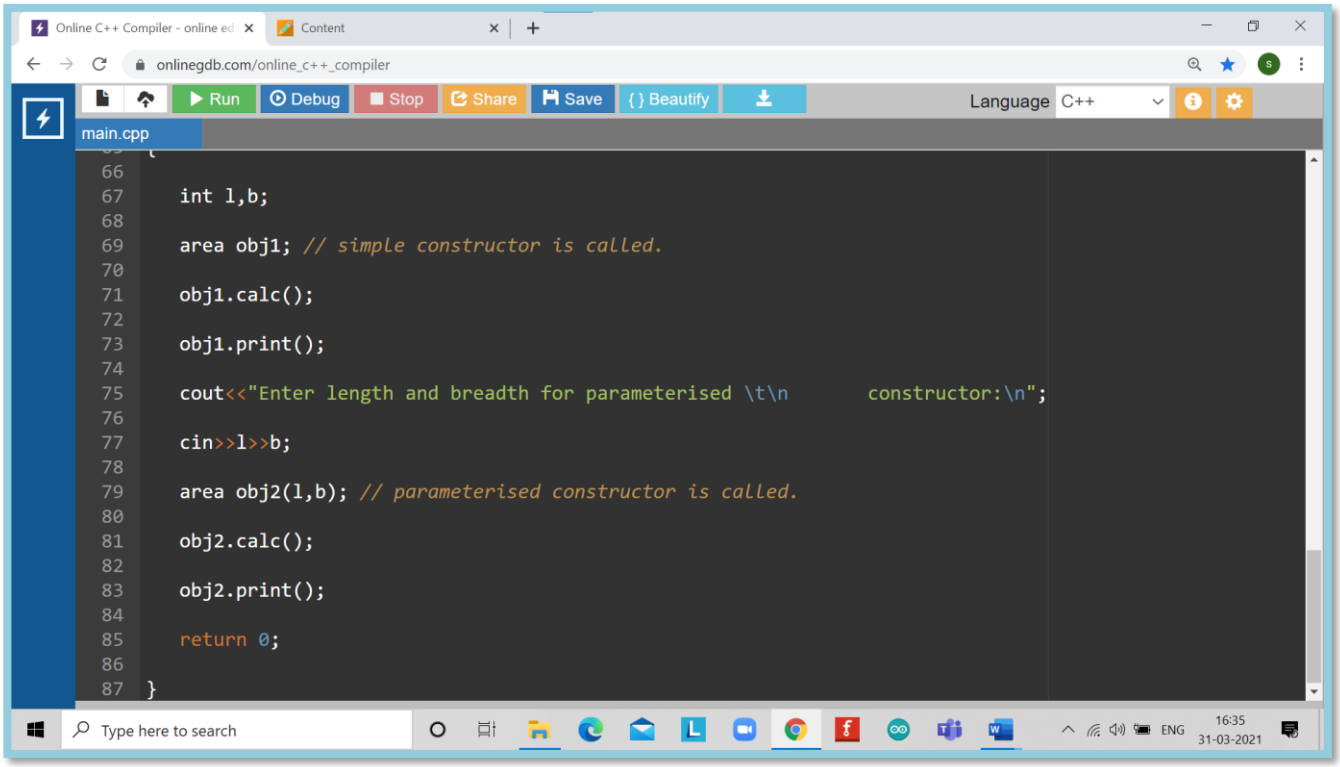
{ } Beautify
Language C++
main.cpp
}
int main()
{
int l,b;
area obj1; // simple constructor is called.
obj1.calc();
obj1.print();
cout<<"Enter length and breadth for parameterised \t\n constructor:\n";
cin>>l>>b;
area obj2(l,b); // parameterised constructor is called.
obj2.calc();
Type here to search
ENG
16:35
31-03-2021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onlinegdb.com/online_c++_compiler
Run
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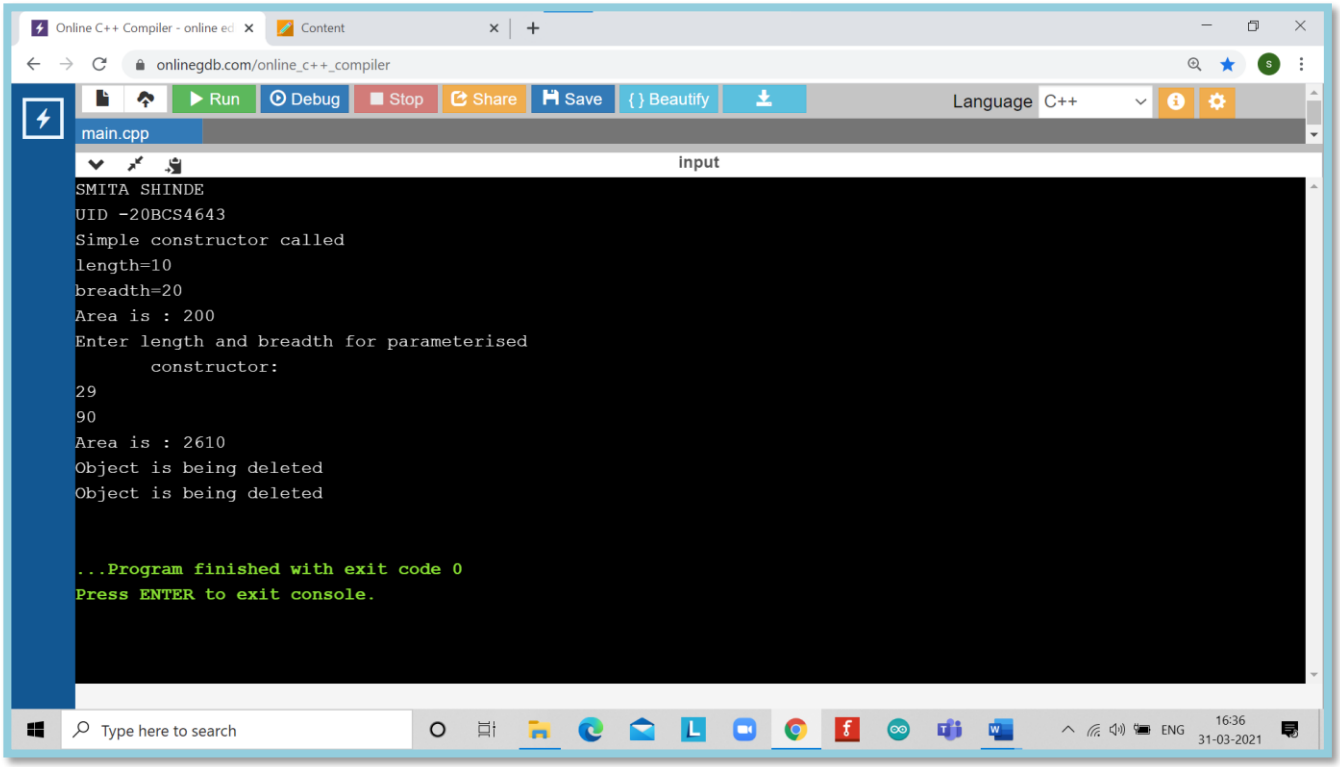
Stop
Share
Save
{ } Beautify
Language C++
main.cpp
66
67 int l,b;
68
69 area obj1; // simple constructor is called.
70
71 obj1.calc();
72
73 obj1.print();
74
75 cout<<"Enter length and breadth for parameterised \t\n constructor:\n";
76
77 cin>>l>>b;
78
79 area obj2(l,b); // parameterised constructor is called.
80
81 obj2.calc();
82
83 obj2.print();
84
85 return 0;
86
87 }
Type here to search
ENG
16:35
31-03-2021

OUTPUT


Online C++ Compiler - online ed
Content
onlinegdb.com/online_c++_compiler
Run
Debug
Stop
Share
Save
{ } Beautify
Language C++
main.cpp
input
SMITA SHINDE
UID -20BCS4643
Simple constructor called
length=10
breadth=20
Area is : 200
Enter length and breadth for parameterised
constructor:
29
90
Area is : 2610
Object is being deleted
Object is being deleted
...Program finished with exit code 0
Press ENTER to exit console.
Type here to search
ENG
16:36
31-03-2021

LEARNING OUTCOMES

- Identify situations where computational methods would be useful.
- Approach the programming tasks using techniques learnt and write pseudo-code.
- Choose the right data representation formats based on the requirements of the problem.
- Use the comparisons and limitations of the various programming constructs and choose the right one for the task.

EVALUATION COLUMN (To be filled by concerned faculty only)

Sr. No.	Parameters	Maximum Marks	Marks Obtained
1.	Worksheet Completion including writing learning objective/ Outcome	10	
2.	Post Lab Quiz Result	5	
3.	Student engagement in Simulation/ Performance/ Pre Lab Questions	5	
4.	Total Marks	20	