

C++ Programming Lab Manual

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Program 23: Program to Demonstrate the Use of Default Constructor

```
#include <iostream>
using namespace std;

class rectangle
{
public:
    int length;
    int breadth;

    rectangle()
    {
        length = 30;
        breadth = 40;
    }

    void showdata()
    {
        cout << "length of rectangle is " << length << endl;
        cout << "breadth of rectangle is " << breadth << endl;
    }
};

int main()
{
    rectangle r;
    r.showdata();
    return 0;
}
```

Program 24: Program to Demonstrate the Use of a Parameterised Constructor

```
#include <iostream>
using namespace std;

class rectangle
{
public:
    int length;
    int breadth;

    rectangle(int p, int q)
    {
        length = p;
        breadth = q;
    }
}
```

```

    void showdata()
    {
        cout << "length of rectangle is " << length << endl;
        cout << "breadth of rectangle is " << breadth << endl;
    }
};

int main()
{
    rectangle obj1(20, 50);
    rectangle obj2(70, 90);

    obj1.showdata();
    obj2.showdata();

    return 0;
}

```

Program 25: Program to Demonstrate the Use of Copy Constructor

```

#include <iostream>
using namespace std;

class rectangle
{
public:
    int length;
    int breadth;

    rectangle()
    {
        length = 10;
        breadth = 20;
    }

    rectangle(rectangle &p)
    {
        length = p.length;
        breadth = p.breadth;
    }

    void showdata()
    {
        cout << "length of rectangle is " << length << endl;
        cout << "breadth of rectangle is " << breadth << endl;
    }
};

```

```
int main()
{
    rectangle r1;
    r1.showdata();

    rectangle r2 = r1;
    r2.showdata();

    return 0;
}
```

Program 26: Program to Demonstrate the Use of Constructor Overloading

```
#include <iostream>
using namespace std;

class rectangle
{
public:
    int length;
    int breadth;

    rectangle()
    {
        length = 10;
        breadth = 20;
    }

    rectangle(int p)
    {
        length = p;
        breadth = 20;
    }

    rectangle(int p, int q)
    {
        length = p;
        breadth = q;
    }

    void showdata()
    {
        cout << "length of rectangle is " << length << endl;
        cout << "breadth of rectangle is " << breadth << endl;
    }
};

int main()
{
```

```
    rectangle r1, r2(15), r3(30, 40);  
    r1.showdata();  
    r2.showdata();  
    r3.showdata();  
    return 0;  
}
```

Program 27: Program to Demonstrate Destructor

```
#include <iostream>  
using namespace std;  
  
class ABC  
{  
public:  
    int x;  
    int y;  
  
    ABC()  
    {  
        x = 10;  
        y = 20;  
    }  
  
    ~ABC()  
    {  
        cout << "Destructor called" << endl;  
    }  
  
    void showdata()  
    {  
        cout << "x = " << x << endl;  
        cout << "y = " << y << endl;  
    }  
};  
  
int main()  
{  
    ABC a1, a2;  
    a1.showdata();  
    a2.showdata();  
    return 0;  
}
```