



**Course code: CSC-284**  
**Lab Report: 05**

**Submitted To**

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Section: A

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Teacher signature

# 1. Default Constructor:

           	<div>main.cpp</div> <div><div>Run</div><div>Share</div></div> <pre>1 #include &lt;iostream&gt; 2 using namespace std; 3 class Students { 4 private: 5     string name; 6     int age; 7 public: 8     Students() { 9         name = "Md.Pranto"; 10        age = 20; 11        cout &lt;&lt; "Default constructor called!" &lt;&lt; endl; 12    } 13     Students(string n, int a) { 14         name = n; 15         age = a; 16         cout &lt;&lt; "Parameterized constructor called here parameter             is n and a" &lt;&lt; endl; 17     }; 18     Students(const Students &amp;p) { 19         age = p.age; 20         cout &lt;&lt; "Copy constructor called this function name = p             .name and age = p.age" &lt;&lt; endl; 21     }; 22     void display() { 23         cout &lt;&lt; "Name: " &lt;&lt; name &lt;&lt; ", Age: " &lt;&lt; age &lt;&lt; endl; 24     }; 25 }; 26 int main() { 27     cout &lt;&lt; "Name: MD.Pranto Ali" &lt;&lt; endl &lt;&lt; "ID: 23303101" &lt;&lt;         endl;</pre>	<div>Output</div> <div>Clear</div> <pre>Name: MD.Pranto Ali ID: 23303101 Default constructor called! Name: Md.Pranto, Age: 20 Parameterized constructor called here parameter is n and a Name: Santo, Age: 16 Copy constructor called this function name = p.name and age = p.age Name: , Age: 16  === Code Execution Successful ===</pre>
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## 2. Copy Constructor:

main.cpp	Output
<pre>1 #include &lt;iostream&gt; 2 using namespace std; 3 class Example { 4     int x; 5 public: 6     Example(int val){ 7         x = val; 8     }; 9     Example(Example &amp;obj){ 10        x = obj.x; 11        cout &lt;&lt; "Copy Constructor Called" &lt;&lt; endl; 12    }; 13    void display() { 14        cout &lt;&lt; "Value of x: " &lt;&lt; x &lt;&lt; endl; 15    }; 16 }; 17 int main() { 18     cout &lt;&lt; "Name: MD.Pranto Ali" &lt;&lt; endl &lt;&lt; "ID: 23303101" &lt;&lt;         endl; 19     Example obj1(10); // Calls parameterized constructor 20     Example obj2 = obj1; // Calls copy constructor 21     cout &lt;&lt; "Object 1: " &lt;&lt; endl; 22     obj1.display(); 23     cout &lt;&lt; "Object 2: " &lt;&lt; endl; 24     obj2.display(); 25     return 0; 26 } 27</pre>	<pre>Name: MD.Pranto Ali ID: 23303101 Copy Constructor Called Object 1: Value of x: 10 Object 2: Value of x: 10  === Code Execution Successful ===</pre>

### 3. Parameterized Constructor:

main.cpp	Output
<pre>1 2 #include &lt;iostream&gt; 3 #include &lt;string&gt; 4 using namespace std; 5 class students { 6     private: 7         string name; 8         int age; 9         int id; 10    public: 11    students(string nam, int ag, int ro) { 12        name = nam; 13        age = ag; 14        id = ro; 15        cout &lt;&lt; "Name: " &lt;&lt; name &lt;&lt; endl &lt;&lt; "Age: " &lt;&lt; age 16        &lt;&lt; endl; 17        cout &lt;&lt; "ID: " &lt;&lt; id &lt;&lt; endl; 18    }; 19 int main() { 20     cout &lt;&lt; "Name: MD.Pranto Ali" &lt;&lt; endl &lt;&lt; "ID: 23303101" &lt;&lt; 21     endl; 22     students one("Md.Pranto Islam", 20, 23303101); 23     return 0; 24 }</pre>	<pre>Name: MD.Pranto Ali ID: 23303101 Name: Md.Pranto Islam Age: 20 ID: 23303101  === Code Execution Successful ===</pre>

## 4. Multiple Constructor:

main.cpp



Share

Run

Output

Clear

```
1 #include <iostream>
2 using namespace std;
3
4 class Student {
5 private:
6     string name;
7     int age;
8 public:
9     Student() {
10         name = "Md.Pranto Islam";
11         age = 20;
12         cout << "Default constructor called: " << name << ", Age
            : " << age << endl;
13     }
14     Student(string studentName) {
15         name = studentName;
16         age = 0;
17         cout << "Constructor with name called: " << name << ",
            Age: " << age << endl;
18     }
19     Student(string studentName, int studentAge) {
20         name = studentName;
21         age = studentAge;
22         cout << "Constructor with name and age called: " << name
            << ", Age: " << age << endl;
23     }
24 };
25 int main() {
26     cout << "Name: MD.Pranto Ali" << endl << "ID: 23303101" <<
        endl;
```

Name: MD.Pranto Ali  
ID: 23303101  
Default constructor called: Md.Pranto Islam, Age: 20  
Constructor with name called: Md.Turjo islam, Pranto, Age: 0  
Constructor with name and age called: Turjo, Age: 200

=== Code Execution Successful ===

## 5. Constructor with default argument:

main.cpp	Output
<pre>1 #include &lt;iostream&gt; 2 using namespace std; 3 class Student { 4 private: 5     string name; 6     int age; 7 8 public: 9     Student(string studentName = "Md.Pranto Islam", int         studentAge = 20) { 10         name = studentName; 11         age = studentAge; 12         cout &lt;&lt; "Constructor called: " &lt;&lt; name &lt;&lt; ", Age: " &lt;&lt;             age &lt;&lt; endl; 13     } 14 }; 15 16 int main() { 17     cout &lt;&lt; "Name: MD.Pranto Ali" &lt;&lt; endl &lt;&lt; "ID: 23303101" &lt;&lt;         endl; 18     Student student1; 19     Student student2("Md.Ikbal Hossain"); 20     Student student3("MD.Irfan Islam", 18); 21     return 0; 22 } 23</pre>	<pre>Name: MD.Pranto Ali ID: 23303101 Constructor called: Md.Pranto Islam, Age: 20 Constructor called: Md.Ikbal Hossain, Age: 20 Constructor called: MD.Irfan Islam, Age: 18  === Code Execution Successful ===</pre>

## 6. Copy Constructor:

main.cpp	Output
<pre>1 #include &lt;iostream&gt; 2 using namespace std; 3 class Example { 4     int x; 5 public: 6     Example(int val){ 7         x = val; 8     }; 9     Example(Example &amp;obj){ 10        x = obj.x; 11        cout &lt;&lt; "Copy Constructor Called" &lt;&lt; endl; 12    }; 13    void display() { 14        cout &lt;&lt; "Value of x: " &lt;&lt; x &lt;&lt; endl; 15    }; 16 }; 17 int main() { 18     cout &lt;&lt; "Name: MD.Pranto Ali" &lt;&lt; endl &lt;&lt; "ID: 23303101" &lt;&lt;         endl; 19     Example obj1(10); 20     Example obj2 = obj1; 21     cout &lt;&lt; "Object 1: " &lt;&lt; endl; 22     obj1.display(); 23     cout &lt;&lt; "Object 2: " &lt;&lt; endl; 24     obj2.display(); 25     return 0; 26 } 27</pre>	<pre>Name: MD.Pranto Ali ID: 23303101 Copy Constructor Called Object 1: Value of x: 10 Object 2: Value of x: 10  === Code Execution Successful ===</pre>