Software Development Fundamentals − II

Tutorial − 11

Oops Concepts

Submitted To

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Batch: F2

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1. OUTPUTS

(i) Constructor Called

(ii) Before fun() called
Constructor Called
After fun() called

(iii) Before fun() called
Constructor Called
After fun() called

(iv) Start
End

(V) 10

(vi) 40

(vii) Str1 is NOIDA
Str2 is JIIT

(viii) Normal Constructor called
Copy constructor called
Copy constructor called
Normal Constructor called

2.
```cpp
#include <iostream>
#include <conio.h>
#include <string.h>
#include <stdio.h>
#include <cstdio.h>
#include <stdlib.h>
using namespace std;
class book
{
    char auth_name[50];
    char title[70];
    float price;
    char publisher[60];
    int stock_pos;
```

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```cpp
public :
    book()
    {
        char *auth_name = new char [50];
        char * title = new char [70];
        char * publisher = new char [60];
        price = 0;
        stock_pos = 0;
    }

    void getdata()
    {
        cout << "Enter author's name";
        fflush (stdin);
        gets(auth_name);
        fflush (stdin);
        cout << "Enter title";
        fflush (stdin);
        gets(title);
        fflush (stdin);
        cout << "Enter price of the book";
        cin >> price;
        cout << "Enter Publisher's name";
        fflush (stdin);
        gets(publisher);
        fflush (stdin);
        cout << "Enter no. of books";
        fflush (stdin);
        cin >> stock_pos;
        cout << "\n";
    }
```

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```cpp
int compare ( char t[], char author[])
{    if( strcmp (title, t) && strcmp ( auth_name , author))
            return 0;
     else
            return 1;
}

int getstock_pos()
{    return stock_pos;
}

float getprice()
{ return price;
}

void printdata()
{  cout << " The details of the book are In";
   cout << " Title : " << title;
   cout << "\n Author! " << auth_name;
   cout << "\n Publisher: " << publisher;
   cout << "\n Price: " << price;

}
} a[20];

int main()
{   char author[50];
    char t[50];
    int N;
    cout << " Enter the no. of books : ";
    cin >> N;
    cout << " Enter details of books to be searched ";
    int n;
```

```cpp
for (int i=0; i<N; i++)
    a[i].getdata();
cout<< endl;
cout<<" Enter the details of the books to be searched!";
fflush(stdin);
cout<< "Enter title";
fflush(stdin);
gets(t);
cout<< "Enter author";
fflush(stdin);
gets(author);
fflush(stdin);
for (int i=0; i<N; i++)
{   if( a[i].compare(t,author))
    {   a[i].printdata();
        cout<< "\n Enter required no. of copies !";
        cin>>n;
        if( n<=a[i].getstock_pa())
        {   cout<<" The books are available \n";
            cout<<" Total price"<<n * a[i].getprice();
        }
        else
            cout<< "\n Sorry!!!\n Out of stock";
    }
    else
        cout<< "Books not in stock...";
}
return 0;
}
```

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```cpp
#include <iostream>
#include <string>
using namespace std;
int c=0;
class Employee
{
    string f_name;
    string l_name;
    int msalary;
public:
    Employee (string first_name, string last_name, int sal)
    {
        f_name = first_name;
        l_name = last_name;
        msalary = sal;
        c++;
    }
    void setf_name (string first_name)
    {
        f_name = first_name;
    }
    void setl_name (string last_name)
    {
        l_name = last_name;
    }
    void set_salary (int salary)
    {
        msalary = salary;
    }
```

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```cpp
String get_fname()
{
    return f_name;
}
String get_lname()
{
    return l_name;
}
int get_salary()
{
    return .msalary;
}
void increased_salary()
{
    msalary = msalary + 0.1 * msalary;
    set_salary(msalary);
}
};

int main()
{
    Employee emp1("saif","zama",200000),
    Employee emp2("Shubham","Garg", 9919103057);
    cout <<" The details of employees";
    cout << "/n Employee 1:.\n";
    cout << "\n Name:"<< emp1.get_fname()<<" "<< emp1.get_lname
    cout<< "\nMonth Salary:"<< emp1.get_salary());
    cout<< "\n Yearly Salary:"<< 12 * emp1.get_salary();
    cout <<" \n \n Employee 2:\n ";
    cout << "\n Name:"<< emp2.get_fname << emp2.get_lname;
    cout <<" \n Month Salary "<< emp2.get_salary();
    cout<< "\n Yearly Salary"<< 12* emp2. get_salary();
```

```cpp
emp1. increased _salary ();
emp2. increased _salary ();
cout << "\n Yearly Salary after 10 Y. increase: ";
cout << "\n Employee 1" << "\n" << 12* emp1.get_salary();
cout << "\n Employee 2" << "\n" << 12* emp2.get_salary();
cout << "No. of times objects are called! " << c;
return 0;
}
```

4.

```cpp
#include <iostream>
# include <string>
# include <std bool.h>
# include <stdlib.h>
# include <stdio.h>
using namespace std;
class Document
{   string text;
    public:
        void setText (string txt)
        {   text = txt;
        }
        string getText ()
        {   return text;
        }
};
```

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```cpp
class Email : public Document
{
    string sender;
    string recipient;
    string title;
    public:
        Email (string sndr, string rec, string title)
        {
            sender = sndr;
            recipient = rec;
            title = title;
        }
        void set_sender (string sndr)
        {
            sender = sndr;
        }
        void set_recipient (string rec)
        {
            recipient = rec;
        }
        void set_title (string ttle)
        {
            title = ttle;
        }
        string get_sender()
        {
            return sender;
        }
        string get_rec()
        {
            return recipient;
        }
```

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```cpp
string get_title()
{
    return title;
}
};

class file : public Document
{
    string pathname;
public:
    file (string msg, string path)
    {
        pathname = path;
        setText (msg);
    }
    void set_path(string pth)
    {
        pathname = pth;
    }
    string get_path()
    {
        return pathname;
    }
};

bool search_keyword (file o, string keyword)
{
    if (o.getText().find(keyword) != string::npos)
        return true;
    else
        return false;
}
```

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```cpp
int main ()
{
    string sndr, rec, ttle, text, path;
    cout << "Enter sender's name:";
    cin >> sndr;
    cout << "Enter recipient's name!")
    cin >> rec;
    fflush (stdin);
    cout << "Enter ttle!";
    cin >> ttle;
    fflush (stdin);
    cout << "Enter Email address!";
    cin >> path;
    fflush (stdin);
    cout << "Enter message";
    fflush (stdin);
    getline (cin, text);
    fflush (stdin);
    Email o1 (sndr, rec, ttle);
    file o2 (text, path)
    cout << "\n \n From: " << o1.get_sender ();
    cout << "\n To: " << o1.get_rec();
    cout << "\nTitle :" << o1.get_title();
    cout << "\n Path:" << o2.get_path();
    cout << "\n \n" << o2.getText();
    string keyword;
    cin >> keyword;
    fflush (stdin);
```

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```
if ( search_keyword ( 02, keyword ))
{
        cout<<"\n found ";
}
else
{
        cout <<"\n Element not found ";
}
return 0;
} //end of main
```

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