



Course Code : BCSL-032

Course Title : C++ Programming Lab

Assignment Number : BCA(3)/L-032/Assignment/16-17

Maximum Marks : 50 Weightage : 25%

Last Dates for Submission : 15th October, 2016 (For July 2016 Session)

15th April, 2017 (For January 2017 Session)

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- 1
- (a) Write a C++ program to find the followings related to the students in a class of C++ Programming course.
- (i) Average marks
 - (ii) Difference between highest marks obtained and the lowest marks obtained
- (10 Marks)

Ans;

```
#include<iostream.h>
#include<conio.h>
class marks
{
int m1, m2,m3;
int a,b;
public:
void input();
void disp();
int max();
int min();
};
void marks::input()
{
cout<<"enter the mark";
cin>>m1>>m2>>m3;
}
int marks::max()
{
a=(m1>m2 ?m1 :m2);
b=(a>m3 ?a :m3);
return b;
}
int marks::min()
{
a=(m1<m2 ?m1 :m2);
b=(a<m3 ?a :m3);
return b;
}
void marks::disp()
{
cout<<"\nAverage marks="<<(m1+m2+m3)/3;
```



```
cout<<"\nDifference between max and min="<<max()-min();
}
void main()
{
marks ob;
clrscr();
ob.input();
ob.disp();
getch();
}
```

(b) Write a C++ program to create shape class having abstract method area(). Derive circle and rectangle classes from it. Override area method in circle and rectangle class to find the area of the respective shape. (10 Marks)

```
#include<iostream.h>
#include<conio.h>
class shape
{
int a,b;
public:
void area();
};
class circle:public shape
{
float a,r;
public:
void area()
{
cout<<"\nenter the radius";
cin>>r;
a=(3.14*r*r);
cout<<"Area="<<a;
}
};
class rect:public shape
{
float a,h,w;
public:
void area()
{
cout<<"\nenter the height & width";
cin>>h>>w;
a=(h*w);
cout<<"Area="<<a;
}
};

void main()
{
circle ob;
rect ot;
clrscr();
```



```
ob.area();  
ot.area();  
getch();  
}
```

2. (a) Write a C++ program to demonstrate exception handling in a program for matrix addition. Matrix addition function should notify if the order of the matrix is invalid, using exception. (10 Marks)

Ans:

```
#include <iostream.h>  
  
#include<conio.h>  
  
int main()  
{  
    int l,j,a,b;  
    int first[5][5],second[5][5],add[5][5]; //declaration of a array  
    clrscr();  
    try  
    {  
        cout<<"enter the no of row and cols";  
        cin>>a>>b;  
        if(a>5 || b>5)  
            throw;  
  
        for ( i = 0; i < a; i++ )  
        {  
            for ( j = 0; j < b; j++ )  
            {  
                cout<<"enter the number into first array";  
                cin>>first[i][j];  
            }  
        }  
    }  
}
```



```
}  
  
//second array;  
  
Cout<<endl;  
  
for ( i = 0; i < 2; i++ )  
{  
for ( j = 0; j < 2; j++ )  
{  
Cout<<"enter the number into first array";  
Cin>>second [i][j];  
}  
}  
  
cout<< "addition(first+second):";  
  
for ( i = 0; i < 2;i++ )  
{  
for ( j = 0; j < 2; j++ )  
{  
add[i][j]=first[i][j]+second[i][j];  
cout<<add[i][j];  
}  
Cout<<endl;  
}  
}catch(int)  
{  
Cout<<"invalid matrix";  
}  
getch();  
}
```





(b) **in on console.**

Write C++ program to read the contents of a given file and display (10 Marks)

Ans:

```
#include<iostream.h>
```

```
#include<conio.h>
```

```
#include<fstream.h>
```

```
#include<stdio.h>
```

```
void main()
```

```
{
```

```
char x;
```

```
int v,c;
```

```
v=0;
```

```
c=0;
```

```
clrscr();
```

```
ifstream ot;
```

```
ot.open("deepa.txt",ios::in);
```

```
do
```

```
{
```

```
x=ot.get();
```

```
cout<<x;
```

```
}while(x!='@');
```

```
getch();
```

```
}
```



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