BCSL-032 C++ Programming Lab

Ans 1.(a)

/* C++ program to create Matrix class with functions to find the sum and difference of two matrices. */

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

class Matrix
{
 private:
int A[3][3],  B[3][3],  C[3][3];
 int i,j;


public:
void valueA()
{
 cout<<"Enter Matrix A\n";
 for(i=0;i<3;i++)
 {
  for(j=0;j<3;j++)
  {
   cin>>A[i][j];
  }
 }
}


void valueB()
{
 cout<<"\nEnter Matrix B\n";
 for(i=0;i<3;i++)
 {
  for(j=0;j<3;j++)
  {
   cin>>B[i][j];
```

```
  }
 }
}



void sum()
{
cout<<"The sum of the matrices is\n";
 for(i=0;i<3;i++)
 {
  for(j=0;j<3;j++)
  {
   C[i][j]=A[i][j]+B[i][j];
   cout<<setw(4)<<C[i][j];
  }
  cout<<endl;
 }
}


void difference()
{
cout<<"The difference of the matrices is\n";
 for(i=0;i<3;i++)
 {
  for(j=0;j<3;j++)
  {
   C[i][j]=A[i][j]-B[i][j];
   cout<<setw(4)<<C[i][j];
  }
  cout<<endl;
 }
}
};


void main()
{
clrscr();

Matrix  obj;
```

```
obj.valueA();
obj.valueB();
obj.sum();
obj.difference();

getch();
}
```

Ans 1.(b)

```
/*  C++ program to create class named Complex to perform addition and subtraction on two
complex numbers.  */


#include<iostream.h>
#include<conio.h>
#include<string.h>
#include<stdio.h>

 class Complex
 {
  private:
  int i, r;


  public:

  void read()
  {
  cout<<"\nEnter Real Part:";
  cin>>r;
  cout<<"Enter Imaginary Part:";
  cin>>i;
  }

  void display()
  {
  cout<<"\n= "<<r<<"+"<<i<<"i";
  }
```

```
 Complex operator+(complex a2)
 {
 complex a;
 a.r=r+a2.r;
 a.i=i+a2.i;
 return a;
 }

 Complex operator-(complex a2)
 {
 complex a;
 a.r=r-a2.r;
 a.i=i-a2.i;
 return a;
 }

};



void main()
 {
clrscr();

 int ch;

Complex a, b, c;

do
 {
 cout<<"\n1.Addition 2.Substraction";
 cout<<" 3.Exit\n";
 cout<<"\nEnter the choice :";
 cin>>ch;

 switch(ch)
 {
 case 1:
      cout<<"\nEnter The First Complex Number:";
      a.read();
      a.display();
      cout<<"\nEnter The Second Complex Number:";
```

```
      b.read();
      b.display();
      c=a+b;
      c.display();
      break;
  case 2:
      cout<<"\nEnter The First Complex Number:";
      a.read();
      a.display();
      cout<<"\nEnter The Second Complex Number:";
      b.read();
      b.display();
      c=b-a;
      c.display();
      break;
   }

  }while(ch!=3);

getch();
 }
```

Ans 2.(a)

/* C++ program to demonstrate exception handling with “dividing by zero” as a case of exception. */

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

void main()
{
```

```
  int a,b;
  float  d;

  clrscr();

  cout<<"Enter the value of a:";
  cin>>a;
  cout<<"Enter the value of b:";
  cin>>b;


  try
  {
          if(b!=0)
          {
            d=a/b;
            cout<<"Result is:"<<d;
          }
          else
          {
            throw(b);
          }
  }

  catch(int i)
  {
          cout<<"Answer is undefined because denominator b is:"<<i;
  }

  getch();
}
```

Ans 2.(b)

Not Available.