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Reg. no.-20BCE10077

SUB. CODE -CSE2001

SLOT -E11+E12+E13

SEMESTER -Winter Semester 2020-21

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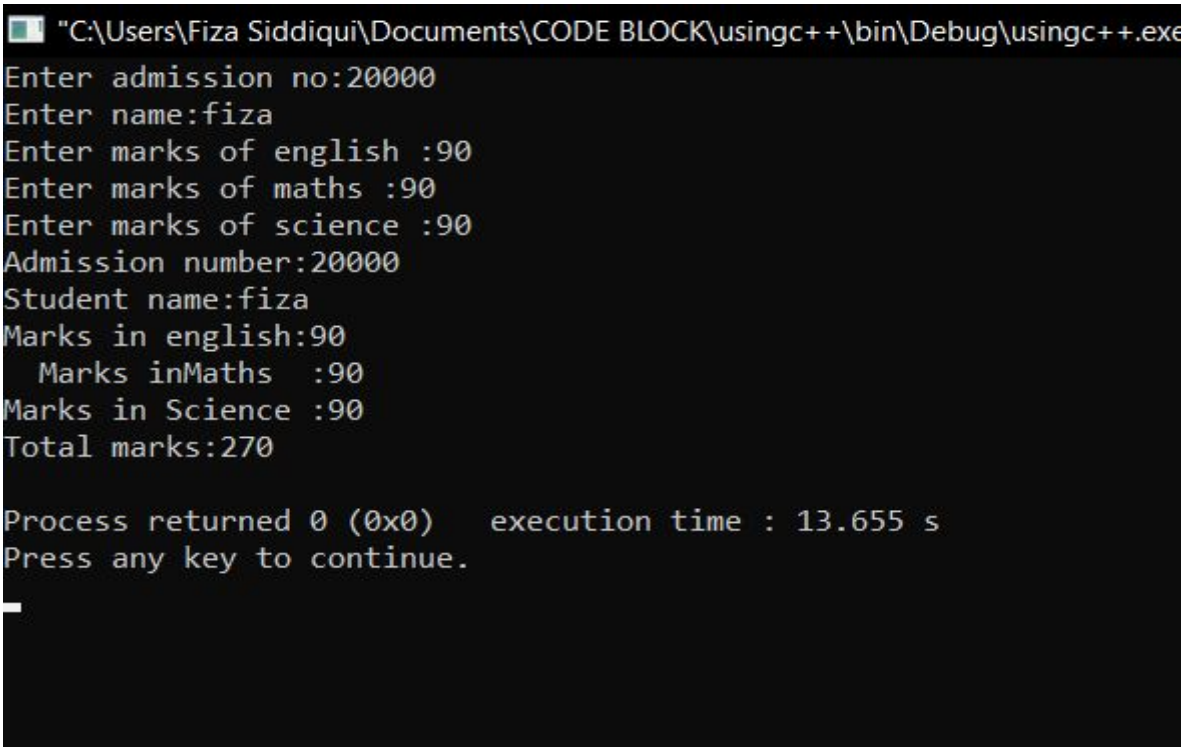
1. Define a class student with the following specification Private members of class student admno integer sname 20 character eng. math, science float total float ctotal() a function to calculate eng + math + science with float return type. Public member function of class student Takedata() Function to accept values for admno, sname, eng, science and invoke ctotal() to calculate total. Showdata() Function to display all the data members on the screen

SOURCE CODE

```
#include <iostream>
using namespace std;
class student
{
        private:

                int   admno;
                char sname[20];
                float eng;
                float math;
                float science ;
       float total ;
      float ctotal()
      {

          return eng+math+science;
      }
        public:

//member function definition, inside of the class

                void Takedata()
                {
      cout<<"Enter admission no:";
      cin>>admno;
      cout<<"Enter name:";
      cin>>sname;
      cout<<"Enter marks of english :";
```

```
        cin>>eng;
        cout<<"Enter marks of maths :";
        cin>>math;
        cout<<"Enter marks of science :";
        cin>>science;
        total=ctotal();
                    }

      void  showdata()
      {

        cout<<"Admission number:"<<admno<<endl;
        cout<<"Student name:"<<sname<<endl;
        cout<<"Marks in english:"<<eng<<endl;
        cout<<"  Marks inMaths  :"<<math<<endl;
        cout<<"Marks in Science :"<<science<<endl;
        cout<<"Total marks:"<<total<<endl;

}
};
int main()
{
        student obj;          //object creation

        obj.Takedata();
        obj.showdata();

        return 0;
}
```

OUTPUT


"C:\Users\Fiza Siddiqui\Documents\CODE BLOCK\usingc++\bin\Debug\usingc++.exe
Enter admission no:20000
Enter name:fiza
Enter marks of english :90
Enter marks of maths :90
Enter marks of science :90
Admission number:20000
Student name:fiza
Marks in english:90
Marks inMaths :90
Marks in Science :90
Total marks:270
Process returned 0 (0x0) execution time : 13.655 s
Press any key to continue.

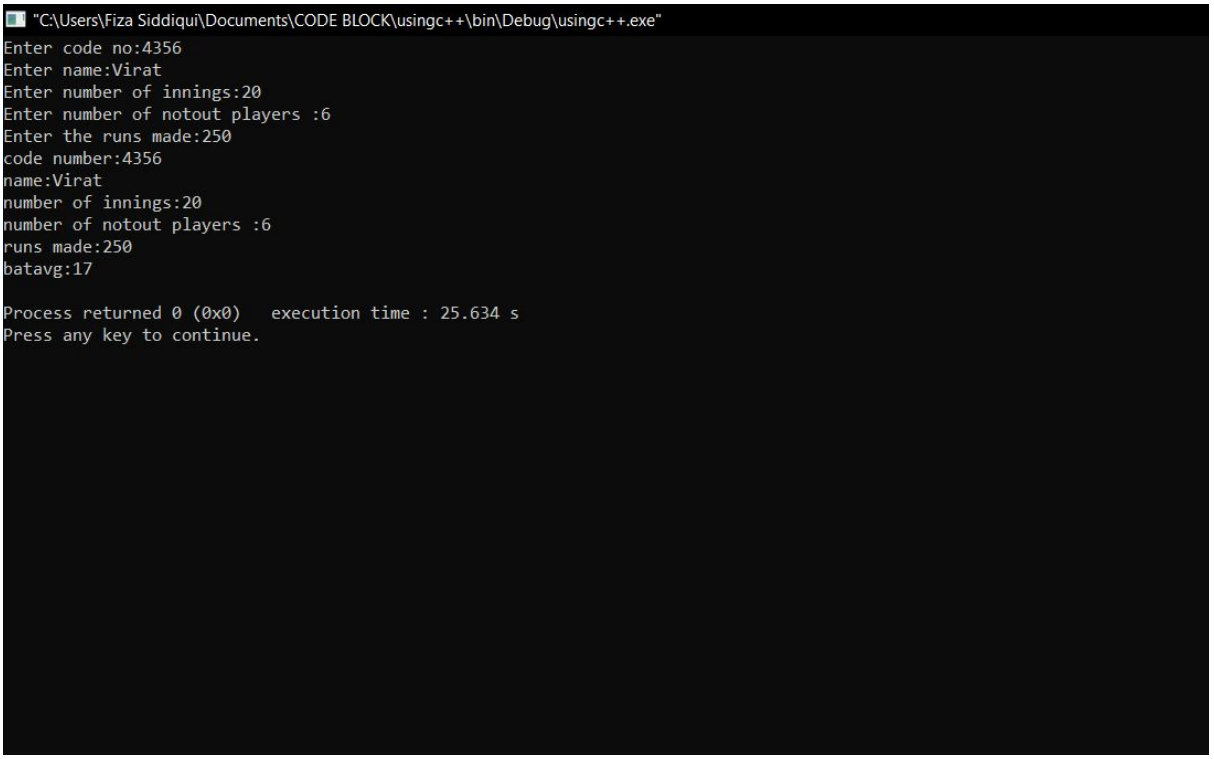
2. Define a class batsman with the following specifications: Private members: bcode 4 digits code number bname 20 characters innings, notout, runs integer type batavg it is calculated according to the formula – batavg =runs/(innings-notout) calcavg() Function to compute batavg Public members: readdata() Function to accept value from bcode, name, innings, notout and invoke the function calcavg() displaydata() Function to display the data members on the screen.

SOURCE CODE

```
#include <iostream>
using namespace std;
class  batsman
{
        private:
                int   bcode;
                char bname[20];
                int notout;
                int runs;
                int innings;
                float batavg;
                float calcavg()
                {
                   return runs/(innings-notout);          }

        public:

//member function definition, inside of the class

                void readdata()
{
      cout<<"Enter code no:";
      cin>>bcode;
      cout<<"Enter name:";
      cin>>bname;
      cout<<"Enter number of innings:";
      cin>>innings;
      cout<<"Enter number of notout players :";
      cin>>notout;
      cout<<"Enter the runs made:";
```

```
        cin>>runs;
        batavg=calcavg();
                    }
 void  displaydata()
{
      cout<<"code number:"<<bcode<<endl;
      cout<<"name:"<<bname<<endl;
      cout<<"number of innings:"<<innings<<endl;
      cout<<"number of notout players :"<<notout<<endl;
      cout<<"runs made:"<<runs<<endl;
      cout<<"batavg:"<<batavg<<endl;
}
};
int main()
{
          batsman obj;                  //object creation
    obj.readdata();
          obj.displaydata();

          return 0;
}
```

OUTPUT


"C:\Users\Fiza Siddiqui\Documents\CODE BLOCK\usingc++\bin\Debug\usingc++.exe"
Enter code no:4356
Enter name:Virat
Enter number of innings:20
Enter number of notout players :6
Enter the runs made:250
code number:4356
name:Virat
number of innings:20
number of notout players :6
runs made:250
batavg:17
Process returned 0 (0x0)   execution time : 25.634 s
Press any key to continue.

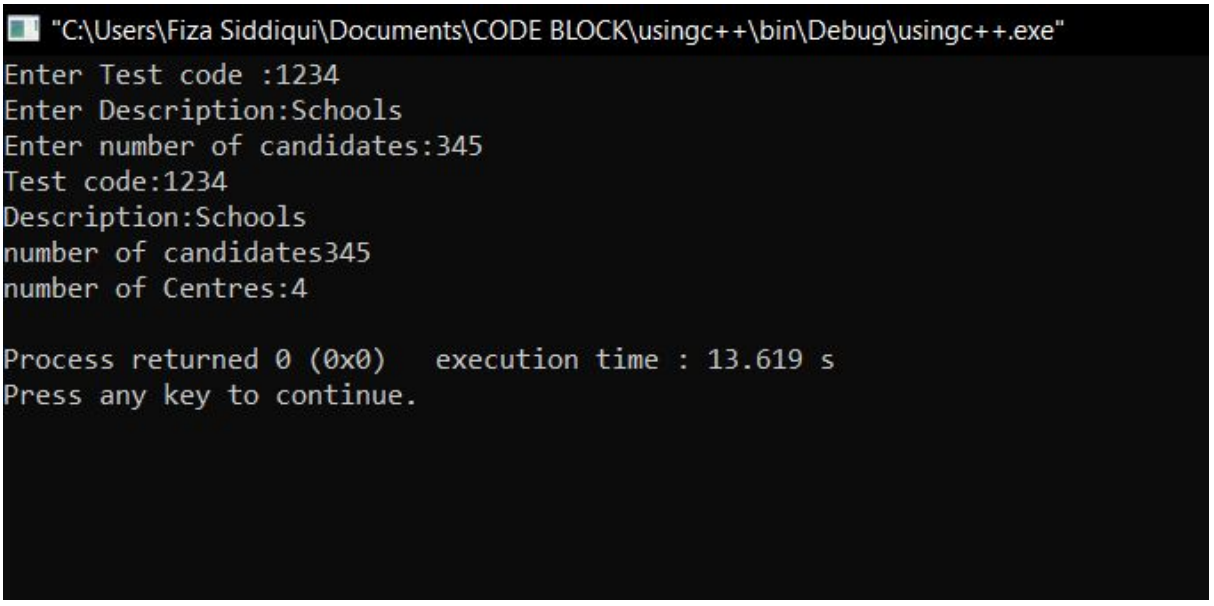
3. Define a class TEST in C++ with following description: Private Members TestCode of type integer Description of type string NoCandidate of type integer CenterReqd (number of centers required) of type integer A member function CALCNTR() to calculate and return the number of centers as (NoCandidates/100+1) Public Members - A function SCHEDULE() to allow user to enter values for TestCode, Description, NoCandidate & call function CALCNTR() to calculate the number of Centres - A function DISPTEST() to allow user to view the content of all the data members

SOURCE CODE

```
#include <iostream>
using namespace std;
class  TEST
{
        private:

                int   TestCode;
                char Description[20];
       int NoCandidates;
                int CenterReqd;
       int CALCNTR()
                {
                   return (NoCandidates/100+1) ;
                }

        public:

//member function definition, inside of the class

                void SCHEDULE()
{
      cout<<"Enter Test code :";
      cin>>TestCode;
      cout<<"Enter Description:";
      cin>>Description;
      cout<<"Enter number of candidates:";
      cin>>NoCandidates;
      CenterReqd=CALCNTR();
                }
```

```
    void  DISPTEST()
{
     cout<<"Test code:"<<TestCode<<endl;
     cout<<"Description:"<<Description<<endl;
     cout<<"number of candidates"<<NoCandidates<<endl;
     cout<<"number of Centres:"<<CenterReqd<<endl;

}
};
int main()
{
        TEST obj1;          //object creation
   obj1.SCHEDULE();
        obj1.DISPTEST();

        return 0;
}
```

OUTPUT



4. Define a class in C++ with following description: Private Members A data member Flight number of type integer A data member Destination of type string A data member Distance of type float A data member Fuel of type float A member function CALFUEL() to calculate the value of Fuel as per the following criteria Distance Fuel <=1000 500 more than 1000 and <=2000 1100 more than 2000 2200

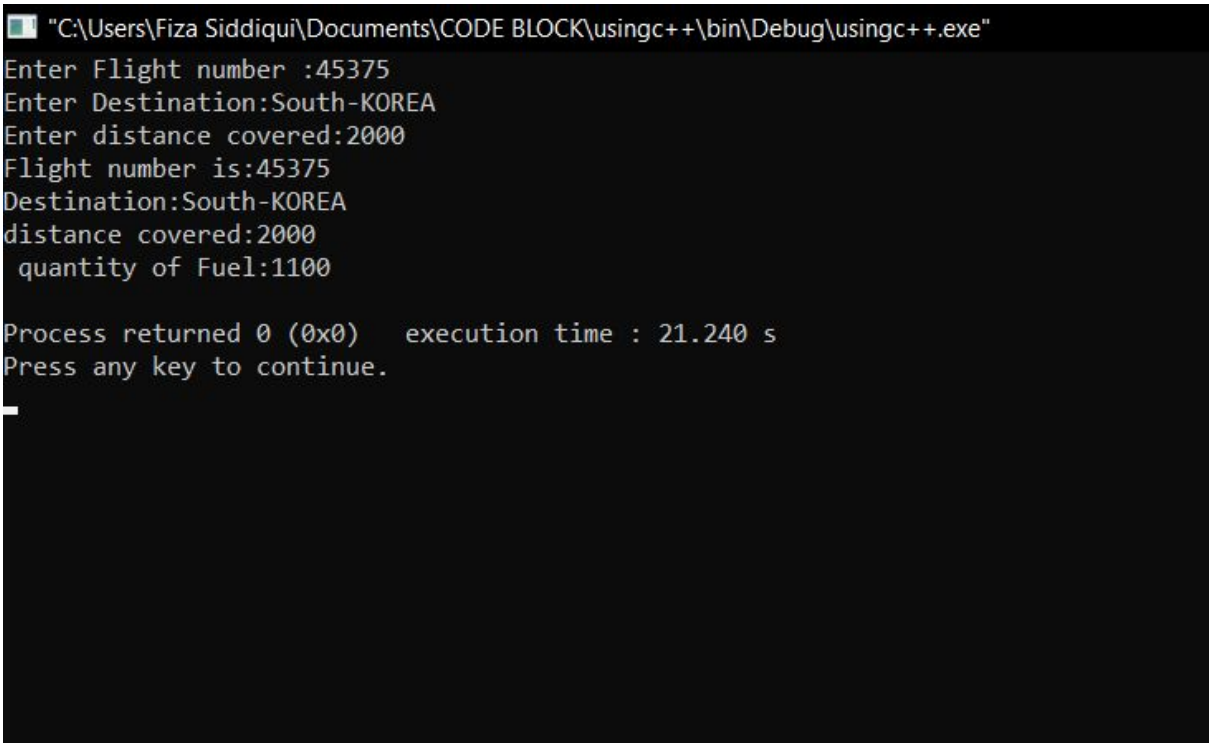
Public Members A function FEEDINFO() to allow user to enter values for Flight Number, Destination, Distance & call function CALFUEL() to calculate the quantity of Fuel A function SHOWINFO() to allow user to view the content of all the data members .

SOURCE CODE

```
#include <iostream>
using namespace std;
class  flight
{
        private:

                int   Flight_number;
                char Destination[20];
       float Distance;
                float Fuel;
       float CALFUEL()
                {
                   if (Distance<=1000)
          {
          return 500;
          }
          else if (Distance>1000 && Distance<=2000 )
             {
                return 1100;
             }
          else
          {
             return 2200;
          }
            }
```

```
        public:

//member function definition, inside of the class

                void FEEDINFO()
{
      cout<<"Enter Flight number :";
      cin>>Flight_number;
      cout<<"Enter Destination:";
      cin>>Destination;
      cout<<"Enter distance covered:";
      cin>>Distance;
      Fuel=CALFUEL();
                }

    void  SHOWINFO()
{
     cout<<"Flight number is:"<<Flight_number<<endl;
     cout<<"Destination:"<<Destination<<endl;
     cout<<"distance covered:"<<Distance<<endl;
     cout<<" quantity of Fuel:"<<Fuel<<endl;
}
};
int main()
{
        flight ob;              //object creation
   ob.FEEDINFO();
        ob.SHOWINFO();

       return 0;
}
```

OUTPUT


"C:\Users\Fiza Siddiqui\Documents\CODE BLOCK\usingc++\bin\Debug\usingc++.exe"
Enter Flight number :45375
Enter Destination:South-KOREA
Enter distance covered:2000
Flight number is:45375
Destination:South-KOREA
distance covered:2000
quantity of Fuel:1100
Process returned 0 (0x0) execution time : 21.240 s
Press any key to continue.

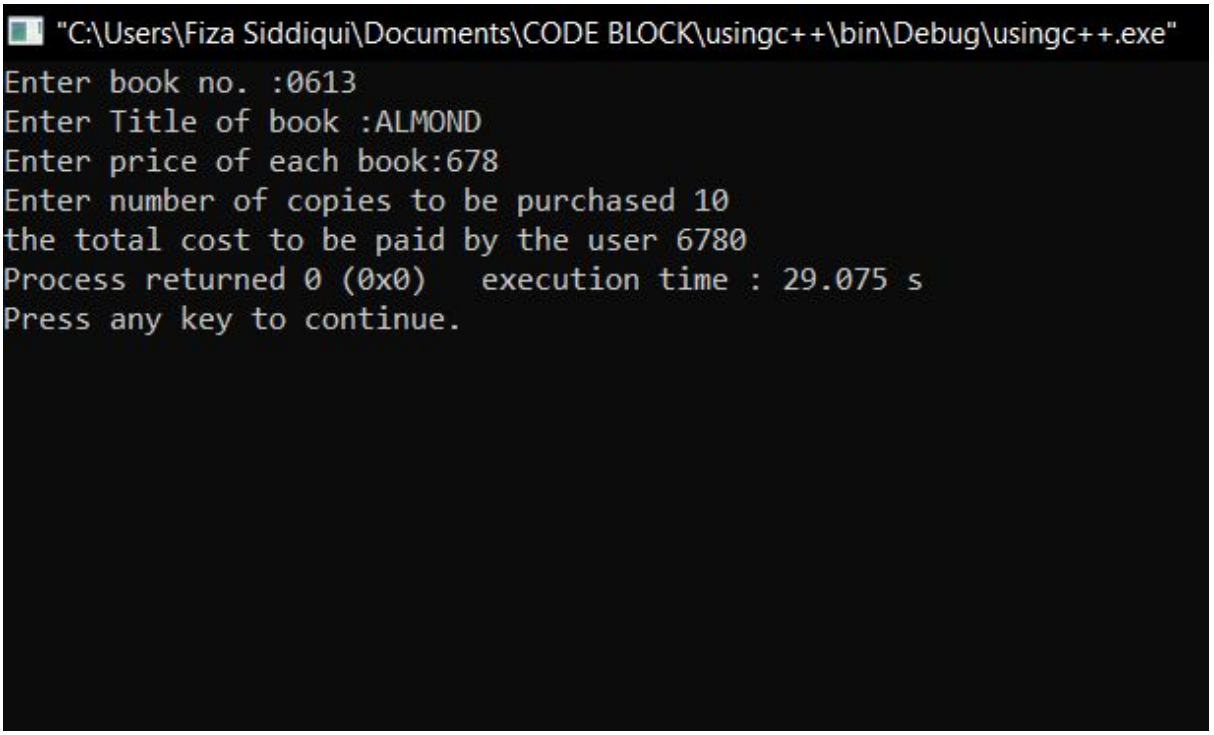
5. Define a class BOOK with the following specifications : Private members of the class BOOK are BOOK NO integer type BOOKTITLE 20 characters PRICE float (price per copy) TOTAL_COST() A function to calculate the total cost for N number of copies where N is passed to the function as argument. Public members of the class BOOK are INPUT() function to read BOOK_NO. BOOKTITLE, PRICE PURCHASE() function to ask the user to input the number of copies to be purchased. It invokes TOTAL_COST() and prints the total cost to be paid by the user. Note : You are also required to give detailed function definitions.

SOURCE CODE

```
#include <iostream>
using namespace std;
class  BOOK
{
        private:


                int   BOOK_NO;
                char BOOKTITLE[20];
       float PRICE;
       float  TOTAL_COST(int N)
                {
                   return PRICE*N ;

                }

        public:

//member function definition, inside of the class

                void INPUT()
{
      cout<<"Enter book no. :";
      cin>>BOOK_NO;
      cout<<"Enter Title of book :";
```

```
      cin>>BOOKTITLE;
      cout<<"Enter price of each book:";
      cin>>PRICE;

                }

    void PURCHASE()
{
        int NUM;
         cout<<"Enter number of copies to be purchased";
         cin>>NUM;
         cout<<"the total cost to be paid by the user "<<TOTAL_COST(NUM);
}
};
int main()
{
         BOOK ob;            //object creation
   ob.INPUT();
         ob.PURCHASE();

         return 0;
}
```

OUTPUT



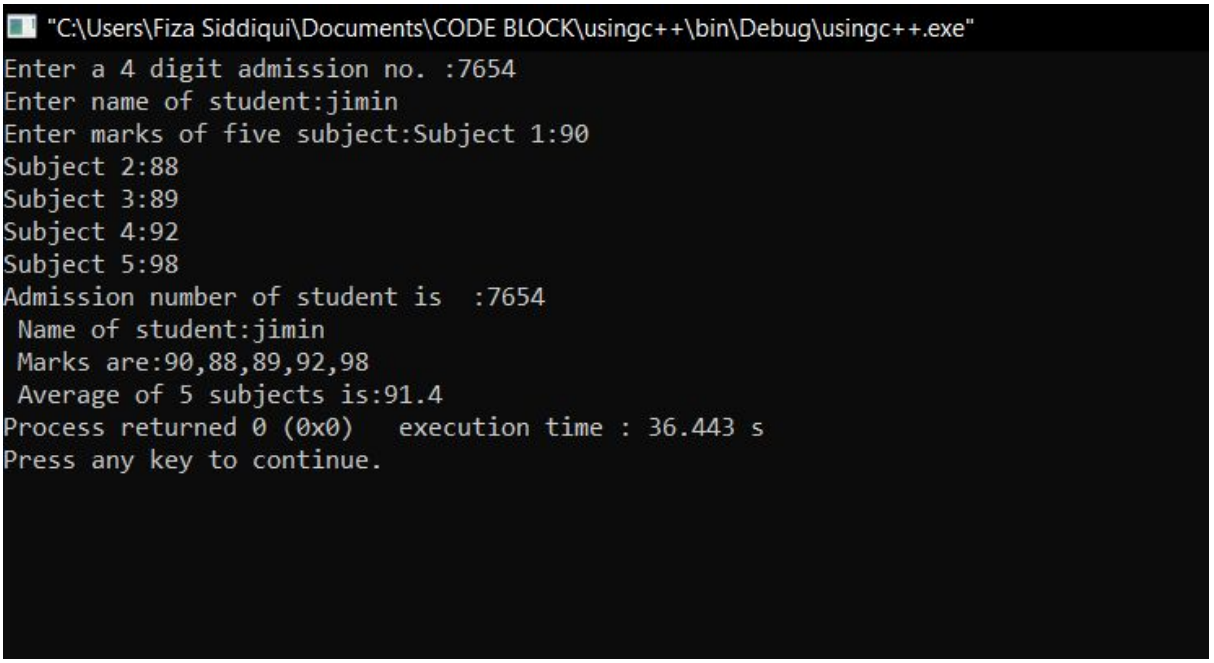
6. Define a class REPORT with the following specification: Private members : adno 4 digit admission number name 20 characters marks an array of 5 floating point values average average marks obtained GETAVG() a function to compute the average obtained in five subject Public members: READINFO() function to accept values for adno, name, marks. Invoke the function GETAVG() DISPLAYINFO() function to display all data members of report on the screen.

SOURCE CODE

```
#include <iostream>
using namespace std;
class  REPORT
{
        private:



                int   adno;
                char name[20];
       float marks[5];
            float average;
            void GETAVG()
         {
                average = ((marks[0]+marks[1]+marks[2]+marks[3]+marks[4])/5);



                }

        public:

//member function definition, inside of the class

                void READINFO()
{
      cout<<"Enter a 4 digit admission no. :";
      cin>>adno;
      cout<<"Enter name of student:";
      cin>>name;
      cout<<"Enter marks of five subject:";
      for(int j=0;j<5;j++)
```

```
        {
                cout<<"Subject "<<j+1<<":";
                cin>>marks[j];
        }
         GETAVG();

                }

    void DISPLAYINFO()
{

    cout<<"Admission number of student is  :"<<adno<<endl;
    cout<<  " Name of student:"<<name<<endl;
    cout<<" Marks are:"<< marks[0]<<","<< marks[1]<<","<<marks[2]<<","<<
marks[3]<<","<< marks[4]<<endl;
     cout<<" Average of 5 subjects is:"<<average;

}
};
int main()
{
        REPORT ob;                  //object creation
   ob.READINFO();
        ob.DISPLAYINFO();

        return 0;
}
```

OUTPUT


"C:\Users\Fiza Siddiqui\Documents\CODE BLOCK\usingc++\bin\Debug\usingc++.exe"
Enter a 4 digit admission no. :7654
Enter name of student:jimin
Enter marks of five subject:Subject 1:90
Subject 2:88
Subject 3:89
Subject 4:92
Subject 5:98
Admission number of student is :7654
Name of student:jimin
Marks are:90,88,89,92,98
Average of 5 subjects is:91.4
Process returned 0 (0x0)   execution time : 36.443 s
Press any key to continue.