

# Fundamentals of programming

## *Home task 2*

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Section A

```
#include <iostream>

using namespace std;

int main () {

    float marks;

    cout<<"Enter the marks of the student."<<endl;

    cin>>marks;

    if (marks>=0 && marks<=100) {

        if (marks>=90 && marks<=100) {

            cout<<"Grade A.";

        }

        else if (marks>=75 && marks<90) {

            cout<<"Grade B.";

        }

        else if (marks>=60 && marks<75) {

            cout<<"Grade C.";

        }

        else if (marks>=45 && marks<60) {

            cout<<"Grade D.";

        }

        else if (marks>=0 && marks<45) {

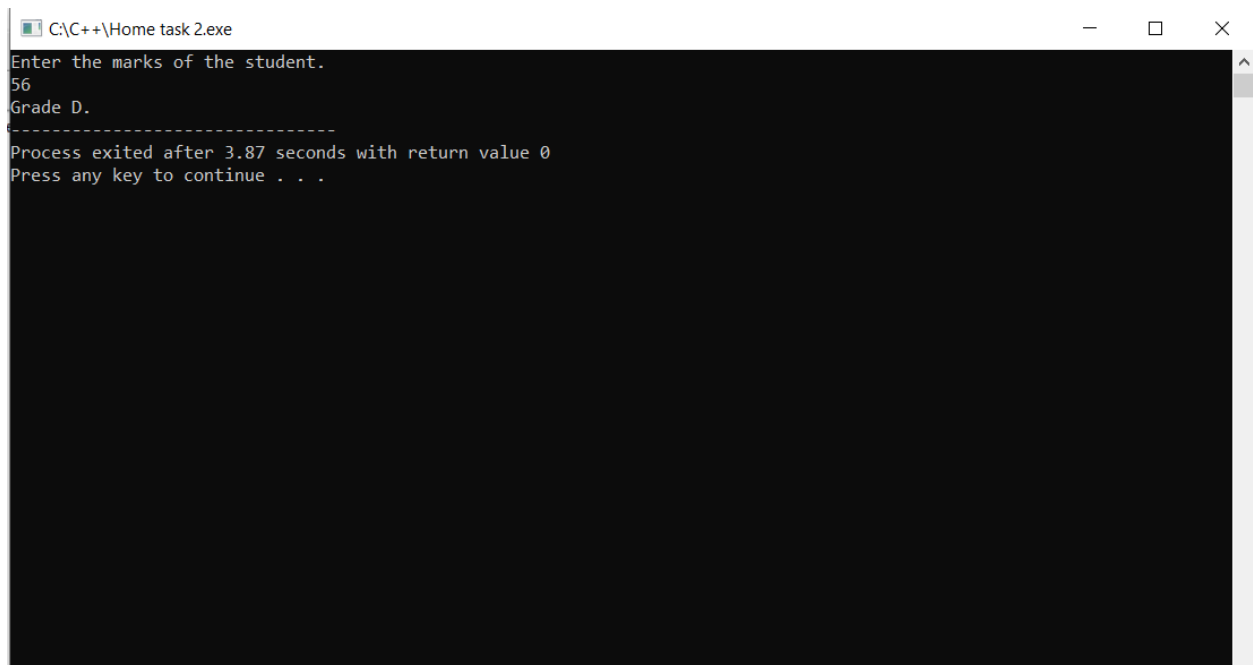
            cout<<"Grade F.";

        }

    }

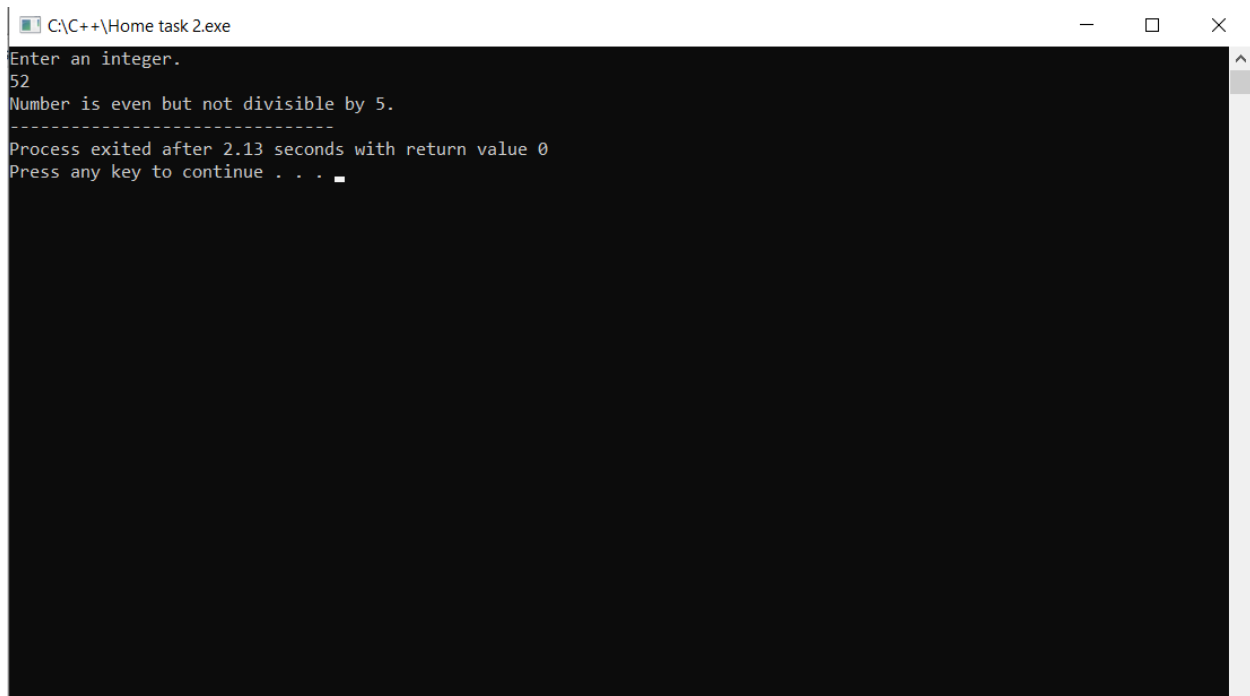
}
```

```
else {  
    cout<<"Invalid input.";  
}  
  
end of task 1
```



```
C:\C++\Home task 2.exe  
Enter the marks of the student.  
56  
Grade D.  
-----  
Process exited after 3.87 seconds with return value 0  
Press any key to continue . . .
```

```
int num;
cout<<"Enter an integer."<<endl;
cin>>num;
if (num%2==0 && num%5==0) {
    cout<<"The number is even and divisble by 5.";
} else if (num%2==0 && num%5!=0) {
    cout<<"Number is even but not divisible by 5.";
}
else if (num%2!=0 && num%5==0){
    cout<<"Number is not even but divisible by 5.";
}
else {
    cout<<"Number is neither even nor divisible by 5.";
}
end of task 2
```



```
C:\C++\Home task 2.exe
Enter an integer.
52
Number is even but not divisible by 5.
-----
Process exited after 2.13 seconds with return value 0
Press any key to continue . . . ■
```

```
int year;

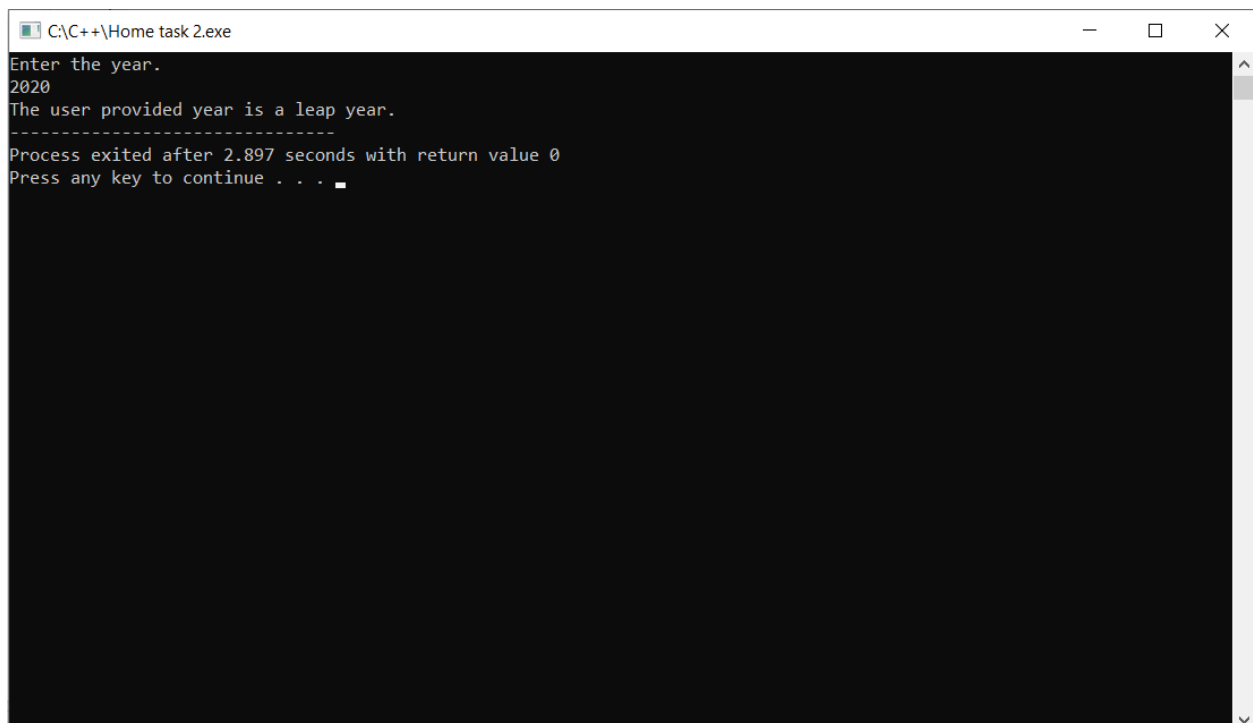
cout<<"Enter the year."<<endl;

cin>>year;

if (year>0)  {
    if (year%4==0)  {
```

```
        cout<<"The user provided year is a leap year.";
    }
    else {
        cout<<"User provided year is not a leap year.";
    }
}
else {
    cout<<"Invalid input.";
}

end of task 3
```



The screenshot shows a Windows command prompt window titled "C:\C++\Home task 2.exe". The program prompts the user to "Enter the year." and the user has entered "2020". The program then outputs "The user provided year is a leap year." followed by a dashed line separator. Below the separator, it displays "Process exited after 2.897 seconds with return value 0" and "Press any key to continue . . .". A small cursor is visible on the line "Press any key to continue . . .".

```
C:\C++\Home task 2.exe
Enter the year.
2020
The user provided year is a leap year.
-----
Process exited after 2.897 seconds with return value 0
Press any key to continue . . .
```

```

int total_classes,attended_classes,percentage;

float gpa;

cout<<"Enter your gpa, total classes and attended classes in the respective
order."<<endl;

cin>>gpa>>total_classes>>attended_classes;

percentage= 100*attended_classes / total_classes;

if (total_classes<attended_classes || gpa>5 || gpa<0 || total_classes<0 ||
attended_classes<0)    {

    cout<<"Invalid input.";

}

else if (gpa>=3.5 && percentage>=80){

    cout<<"Student is eligible for scholarship.";

}

else if(gpa<3.5 || percentage <80)    {

    cout<<"Student is not eligible for scholarship.";

}

end of task 4

```

```
C:\C++\Home task 2.exe
Enter your gpa, total classes and attended classes in the respective order.
5
16
14
Student is eligible for scholarship.
-----
Process exited after 7.458 seconds with return value 0
Press any key to continue . . .
```

```
char letter;

cout<<"Enter a character."<<endl;

cin>>letter;

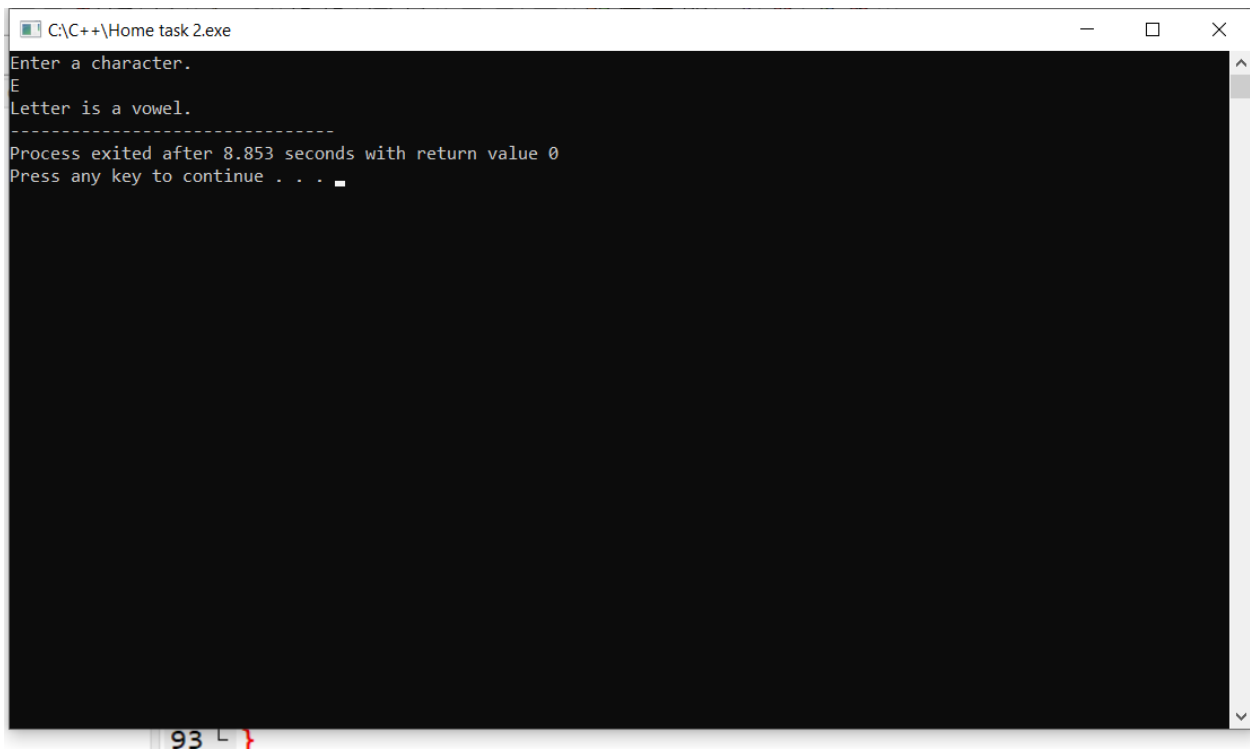
if
(letter=='a' || letter=='e' || letter=='i' || letter=='o' || letter=='u' || letter=='A' || letter
=='E' || letter=='I' || letter=='O' || letter=='U') {

    cout<<"Letter is a vowel.";

}
```



```
else if ((letter >= 'a' && letter <='z') || (letter >= 'A' && letter <='Z')){  
    cout<<"Letter is a consonant.";  
}  
else {  
    cout<<"The input is not an alphabet";  
}  
} end of task 5
```



```
C:\C++\Home task 2.exe  
Enter a character.  
E  
Letter is a vowel.  
-----  
Process exited after 8.853 seconds with return value 0  
Press any key to continue . . .
```

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