



NUST

NATIONAL UNIVERSITY
OF SCIENCES & TECHNOLOGY

Assignment#2

Lab of fundamental programming

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Section: ME-15B

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Task#1:

```
#include <iostream>

#include<math.h>

using namespace std;

int main(){

float a;

cout<< "marks obtained: ";

cin>>a;

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

cout<<"A-Grade";}

else if( a>=75&&a<90)

{cout<<"B-Grade";

}

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

cout<< " C-Grade";}

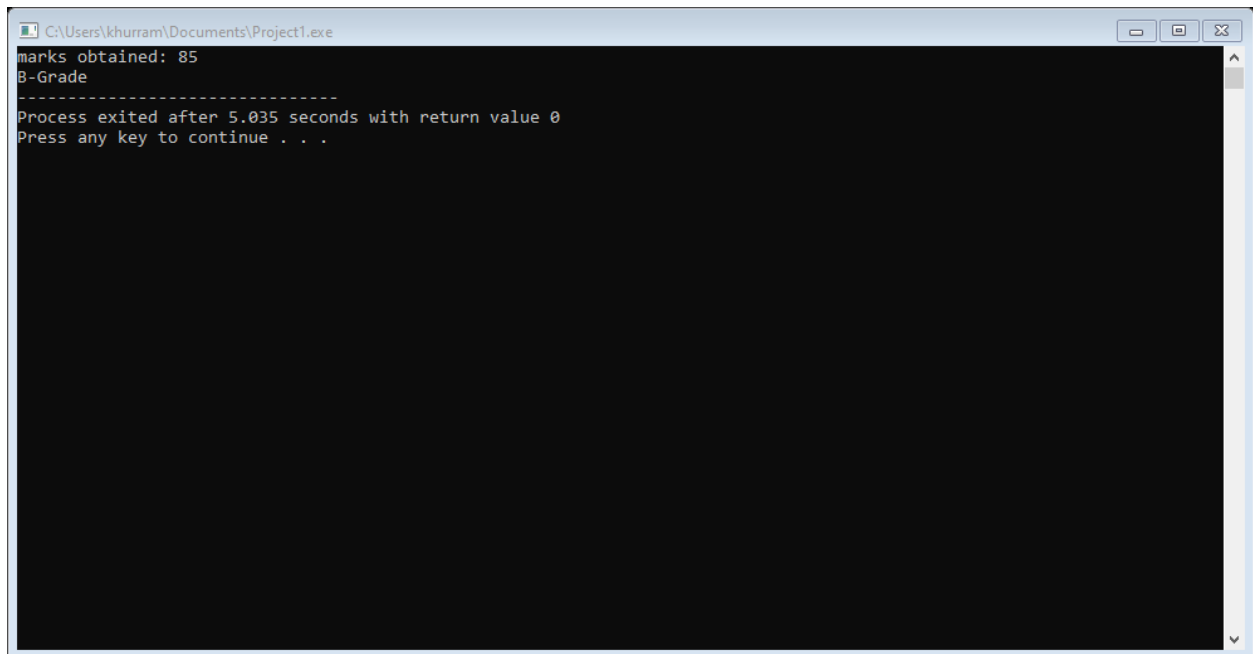
else if ( a>=45&&a<60){

cout<<" D-grade";}

else if( a>=0&& a<45)

{cout<< "F-Grade";}
```

```
return 0;}
```

A screenshot of a Windows command prompt window. The title bar shows the file path "C:\Users\khuram\Documents\Project1.exe". The window has standard Windows window controls (minimize, maximize, close) on the right. The command prompt displays the following text: "marks obtained: 85", "B-Grade", a dashed line separator, "Process exited after 5.035 seconds with return value 0", and "Press any key to continue . . .". The rest of the window is black.

```
C:\Users\khuram\Documents\Project1.exe
marks obtained: 85
B-Grade
-----
Process exited after 5.035 seconds with return value 0
Press any key to continue . . .
```

Task#2

```
#include <iostream>

#include<math.h>

using namespace std;

int main(){

int x;

cout<<"value of of x: ";

cin>>x;
```

```
if(x%2==0&& x%5==0)

{ cout<<" the integer is even and divisible by 5"<<endl;

}

else if(x%2==0&& x%5!=0)

{ cout<<" the integer is even but not divisible by 5";}

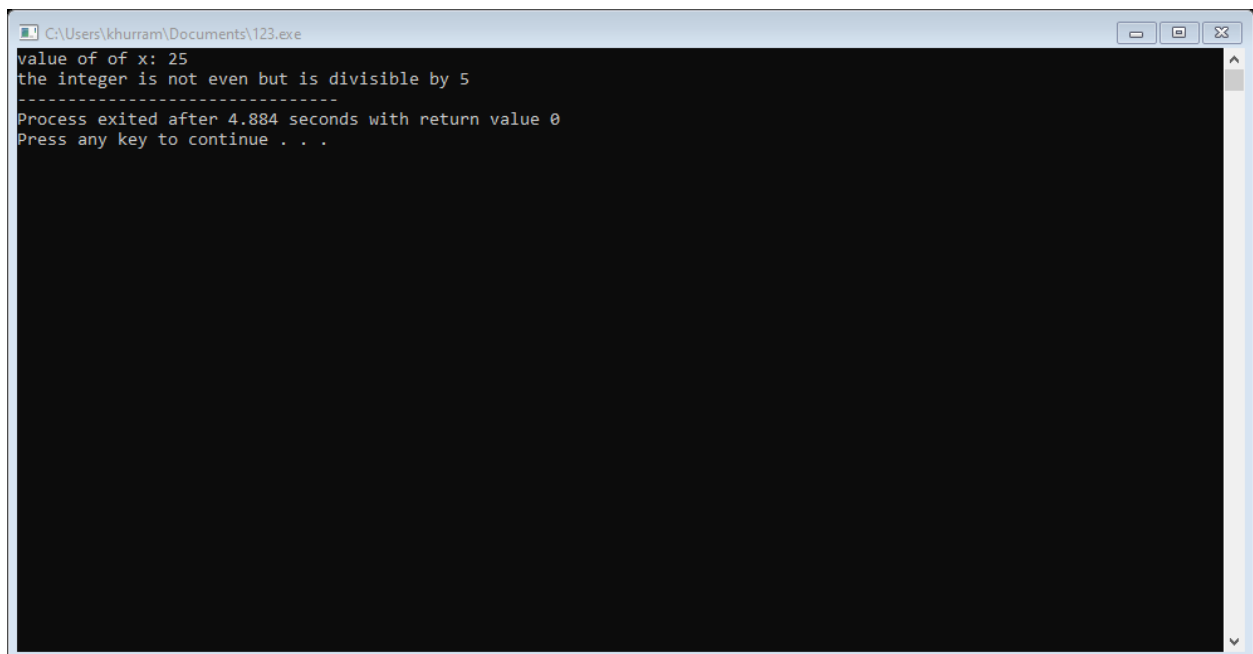
else if( x%2!=0 && x%5==0)

{ cout<< "the integer is not even but is divisible by 5";}

else{ cout<<" the integer is neither even nor divisible by 5";}

return 0;

}
```



```
C:\Users\khurram\Documents\123.exe
value of of x: 25
the integer is not even but is divisible by 5
-----
Process exited after 4.884 seconds with return value 0
Press any key to continue . . .
```

Task#3

```
#include <iostream>
```

```
#include<math.h>
```

```
using namespace std;
```

```
int main(){
```

```
int a;
```

```
cout<< " year: ";
```

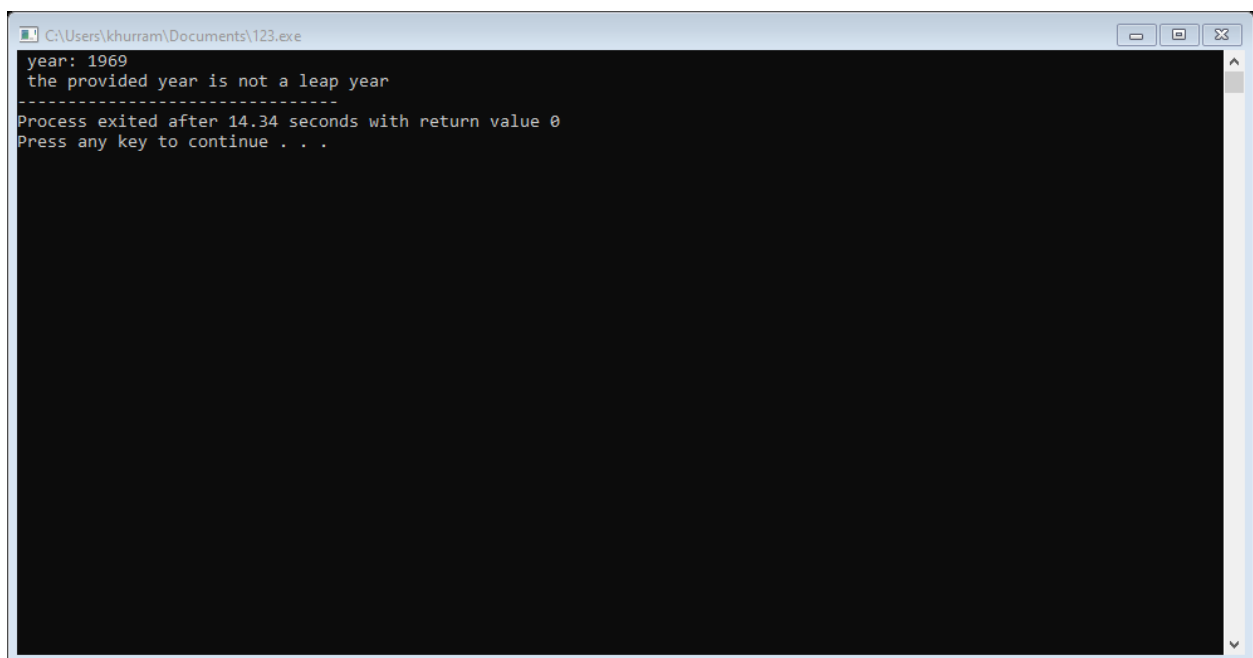
```
cin>>a;
```

```
if( a%4==0 && a%100!=0)
```

```
{ cout<< " the provided year is a leap year";}
```

```
else {cout<<" the provided year is not a leap year";}
```

```
return 0;}
```



```
C:\Users\khurram\Documents\123.exe
year: 1969
the provided year is not a leap year
-----
Process exited after 14.34 seconds with return value 0
Press any key to continue . . .
```

Task#4

```
#include <iostream>

#include<math.h>

using namespace std;

int main(){

float a;

float b;

cout<<" GPA: ";

cin>> a;

cout<< " Attendance percentage: ";

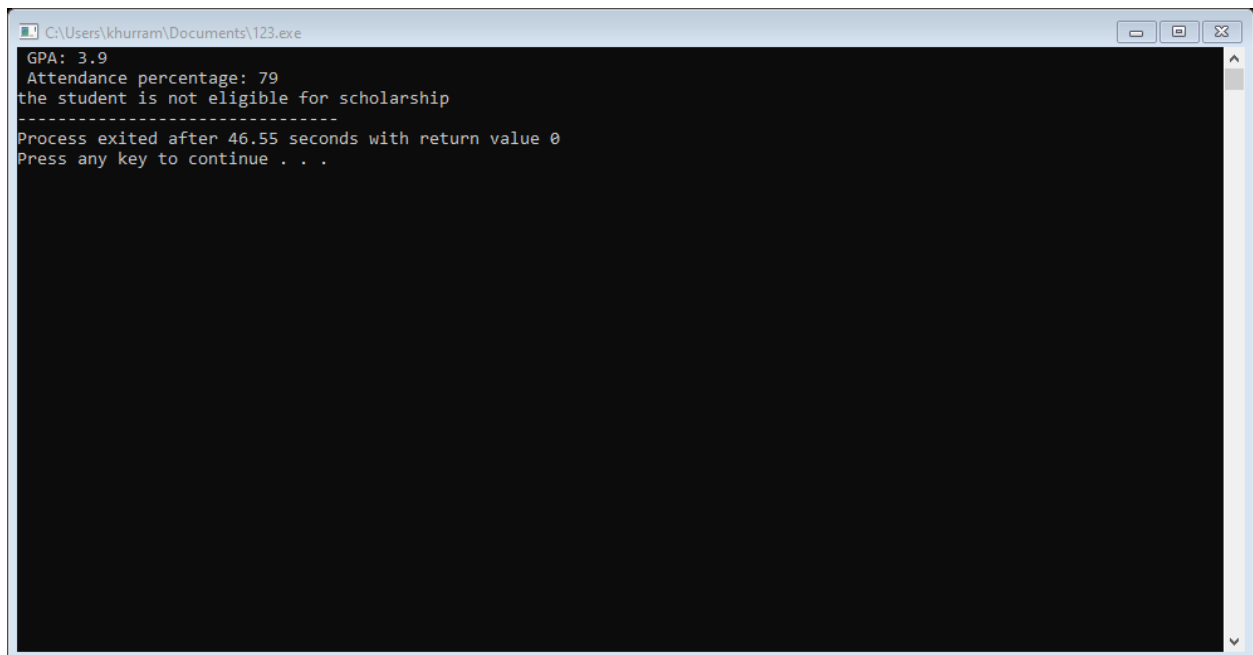
cin>> b;

if( a>= 3.5 && b>=80)

{ cout<<"the student is eligible for scholarship";}

else { cout<<"the student is not eligible for scholarship"; }

return 0; }
```

A screenshot of a Windows command prompt window. The title bar shows the file path "C:\Users\khuram\Documents\123.exe". The window has standard Windows window controls (minimize, maximize, close) on the right. The command prompt displays the following text: "GPA: 3.9", "Attendance percentage: 79", "the student is not eligible for scholarship", a dashed line separator, "Process exited after 46.55 seconds with return value 0", and "Press any key to continue . . .".

```
C:\Users\khuram\Documents\123.exe
GPA: 3.9
Attendance percentage: 79
the student is not eligible for scholarship
-----
Process exited after 46.55 seconds with return value 0
Press any key to continue . . .
```

Task#5

```
#include <iostream>
```

```
#include<math.h>
```

```
using namespace std;
```

```
int main(){
```

```
char x;
```

```
cout<< " character: ";
```

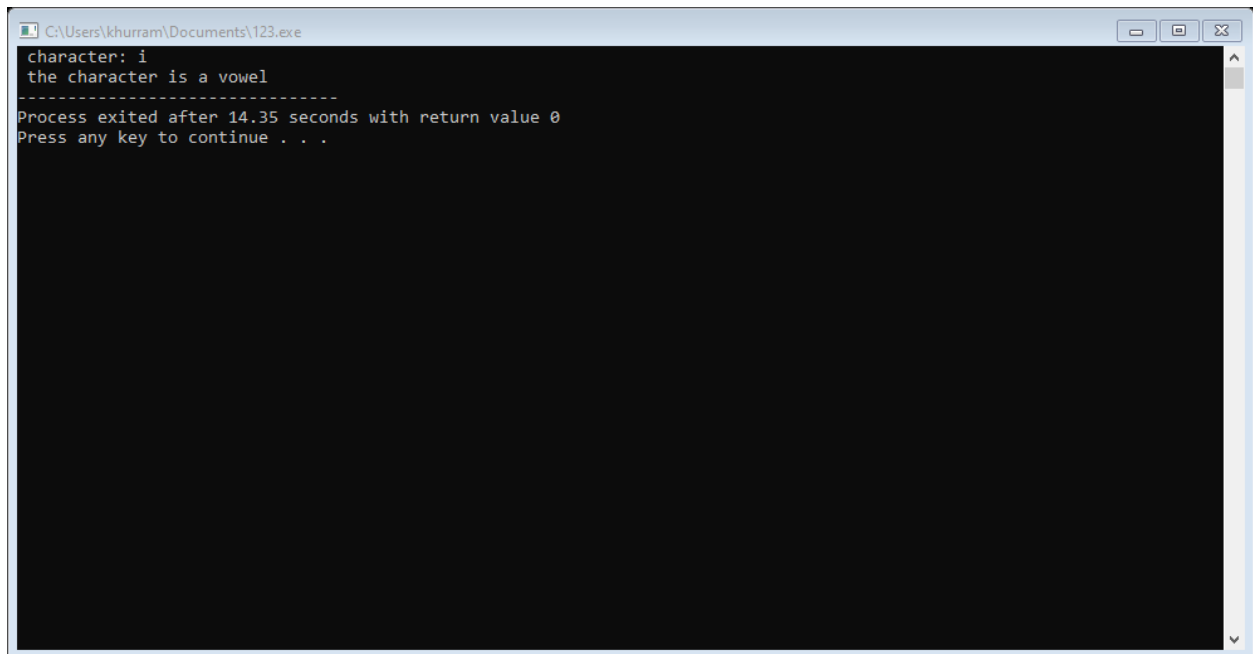
```
cin>>x;
```

```
if ( x== 'a' || x=='e' || x=='i' || x=='o' || x=='u')
```

```
{ cout<< " the character is a vowel";}
```

```
else { cout<< " the character is a consonant";}
```

```
return 0;}
```



A screenshot of a Windows command prompt window. The title bar shows the file path "C:\Users\khuram\Documents\123.exe". The window has standard Windows window controls (minimize, maximize, close) in the top right corner. The command prompt displays the following text: "character: i", "the character is a vowel", a dashed line separator, "Process exited after 14.35 seconds with return value 0", and "Press any key to continue . . .". The rest of the window is black.

```
C:\Users\khuram\Documents\123.exe
character: i
the character is a vowel
-----
Process exited after 14.35 seconds with return value 0
Press any key to continue . . .
```