

CS & Programming Lab

Assignment 2

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Home Task # 1

```
#include<iostream>

using namespace std;

int main()
{
    //Defining variable and obtaining value
    int m;

    cout<<"Enter your marks out of 100 = ";
    cin>>m;
    cout<<endl;

    //Calculating results
    //Grade F
    if (m<45)
        cout<<"Grade = F";

    //Grade D
    else if (m>=45&&m<=60)
        cout<<"Grade = D";
```

```
//Grade C
```

```
else if (m>60&&m<=75)
```

```
cout<<"Grade = C";
```

```
//Grade B
```

```
else if (m>75&&m<=90)
```

```
cout<<"Grade = B";
```

```
//Grade A
```

```
else if (m>90&&m<=100)
```

```
cout<<"Grade = A";
```

```
//Invalid number entered
```

```
else
```

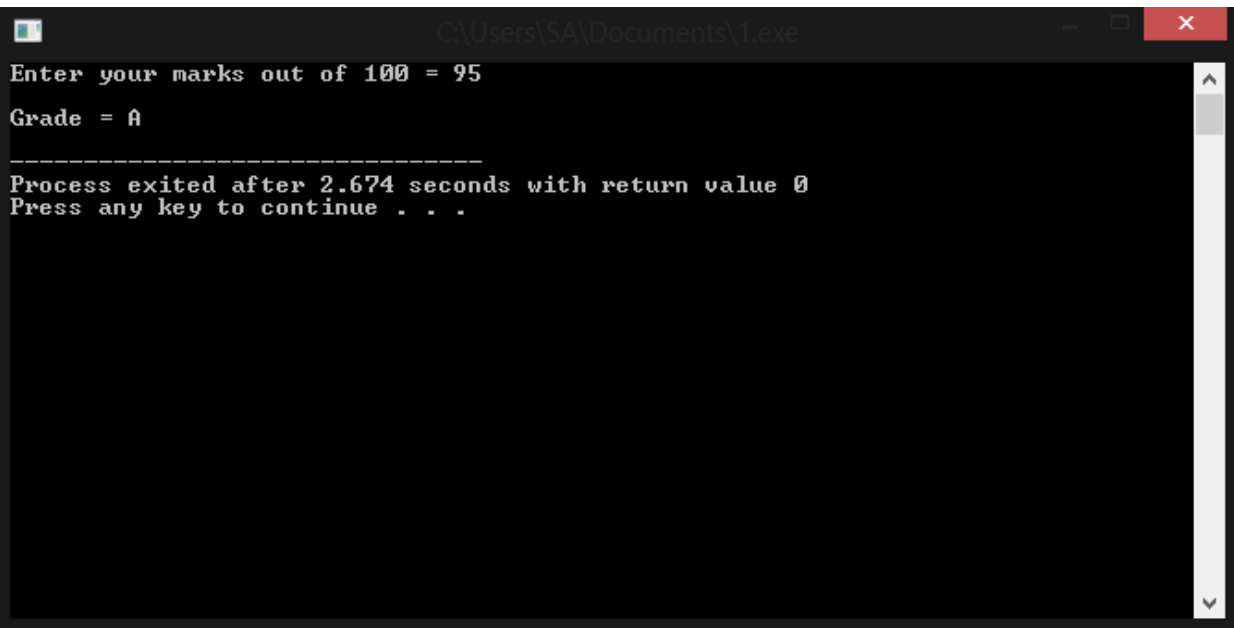
```
cout<<"Invalid number entered";
```

```
cout<<endl;
```

```
}
```

1.cpp

```
1 #include<iostream>
2 using namespace std;
3
4 int main()
5 {
6     //Defining variable and obtaining value
7     int m;
8     cout<<"Enter your marks out of 100 = ";
9     cin>>m;
10    cout<<endl;
11
12    //Calculating results
13    //Grade F
14    if (m<45)
15        cout<<"Grade = F";
16
17    //Grade D
18    else if (m>=45&&m<=60)
19        cout<<"Grade = D";
20
21    //Grade C
22    else if (m>60&&m<=75)
23        cout<<"Grade = C";
24
25    //Grade B
26    else if (m>75&&m<=90)
27        cout<<"Grade = B";
28
29    //Grade A
30    else if (m>90&&m<=100)
31        cout<<"Grade = A";
32
33    //Invalid number entered
34    else
35        cout<<"Invalid number entered";
36    cout<<endl;
37 }
```



```
C:\Users\SA\Documents\1.exe
Enter your marks out of 100 = 95
Grade = A
-----
Process exited after 2.674 seconds with return value 0
Press any key to continue . . .
```

Home Task # 2

```
#include<iostream>

using namespace std;

int main()
{
    //Defining variable and obtaining value
    int a;

    cout<<"Enter any number = ";
    cin>>a;

    //Checking if the number is even
    if (a % 2 == 0)

        //Checking if the number is divisible by 5
        {if (a % 5 == 0 )
            cout<<"The number is even and divisible by 5."<<endl;

        else
            cout<<"The number is even but not divisible by 5."<<endl;}
```

```
else if (a % 5 == 0)
```

```
cout<<"The number is not even but divisible by 5."<<endl;
```

```
else
```

```
cout<<"The number is not even."<<endl;
```

```
}
```

2.cpp

```
1  #include<iostream>
2  using namespace std;
3
4  int main()
5  {
6      //Defining variable and obtaining value
7      int a;
8      cout<<"Enter any number = ";
9      cin>>a;
10
11     //Checking if the number is even
12     if (a % 2 == 0)
13
14     //Checking if the number is divisible by 5
15     {if (a % 5 == 0 )
16         cout<<"The number is even and divisible by 5."<<endl;
17
18     else
19         cout<<"The number is even but not divisible by 5."<<endl;}
20
21     else if (a % 5 == 0)
22         cout<<"The number is not even but divisible by 5."<<endl;
23
24     else
25         cout<<"The number is not even."<<endl;
26 }
```



```
C:\Users\SA\Documents\2.exe
Enter any number = 10
The number is even and divisible by 5.

-----
Process exited after 22.58 seconds with return value 0
Press any key to continue . . .
```

Home Task # 3

```
#include<iostream>

using namespace std;

int main()
{
    //Defining variable and obtaining value
    int y;
    cout<<"Enter the year = ";
    cin>>y;

    //Checking if the year entered is a leap year
    if (y % 4 == 0)
        cout<<"The year entered is a leap year."<<endl;

    else
        cout<<"The year entered is not a leap year."<<endl;
}
```


3.cpp

```
1 #include<iostream>
2 using namespace std;
3
4 int main()
5 {
6     //Defining variable and obtaining value
7     int y;
8     cout<<"Enter the year = ";
9     cin>>y;
10
11     //Checking if the year entered is a leap year
12     if (y % 4 == 0)
13         cout<<"The year entered is a leap year."<<endl;
14
15     else
16         cout<<"The year entered is not a leap year."<<endl;
17 }
```

C:\Users\SA\Documents\3.exe

```
Enter the year = 2024
The year entered is a leap year.

-----
Process exited after 3.706 seconds with return value 0
Press any key to continue . . .
```

Home Task # 4

```
#include<iostream>

using namespace std;

int main()
{
    //Defining variable and obtaining value
    float a,g;

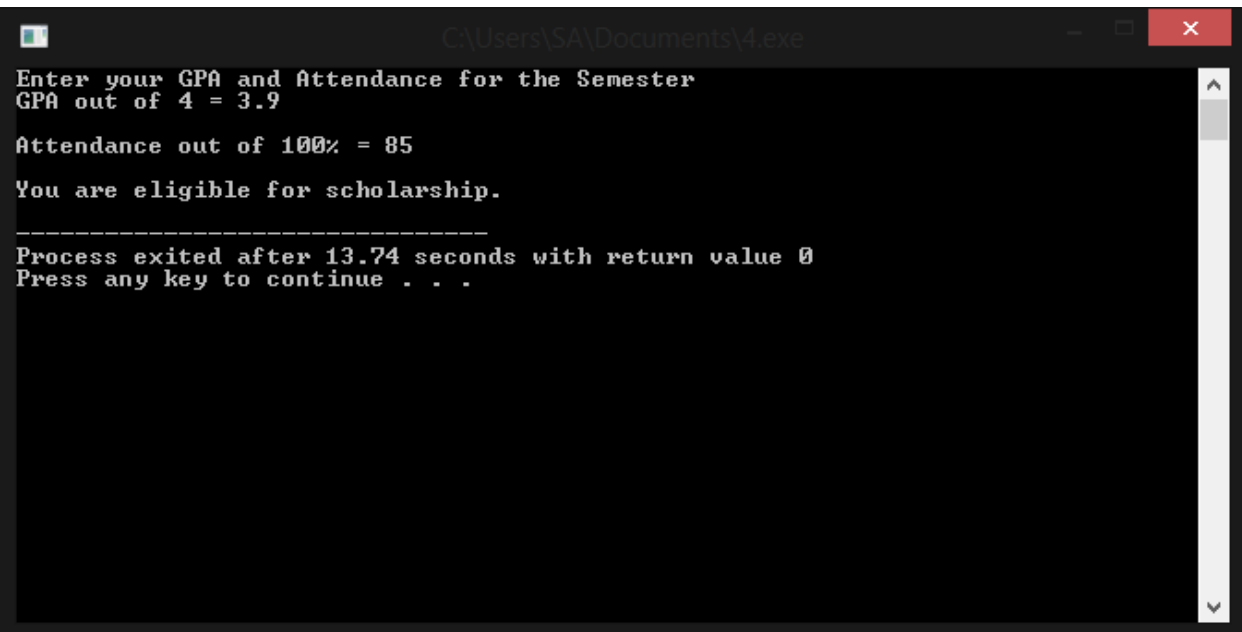
    cout<<"Enter your GPA and Attendance for the Semester"<<endl;
    cout<<"GPA out of 4 = "; cin>>g; cout<<endl;
    cout<<"Attendance out of 100% = "; cin>>a; cout<<endl;

    //Checking the eligibility for scholarship
    if (g>=3.5&&a>=80)
        cout<<"You are eligible for scholarship."<<endl;

    else
        cout<<"You are ineligible for scholarship."<<endl;
}
```

4.cpp

```
1  #include<iostream>
2  using namespace std;
3
4  int main()
5  {
6      //Defining variable and obtaining value
7      float a,g;
8      cout<<"Enter your GPA and Attendance for the Semester"<<endl;
9      cout<<"GPA out of 4 = "; cin>>g; cout<<endl;
10     cout<<"Attendance out of 100% = "; cin>>a; cout<<endl;
11
12     //Checking the eligibility for scholarship
13     if (g>=3.5&&a>=80)
14         cout<<"You are eligible for scholarship."<<endl;
15
16     else
17         cout<<"You are ineligible for scholarship."<<endl;
18 }
```



```
C:\Users\SA\Documents\4.exe
Enter your GPA and Attendance for the Semester
GPA out of 4 = 3.9
Attendance out of 100% = 85
You are eligible for scholarship.
-----
Process exited after 13.74 seconds with return value 0
Press any key to continue . . .
```

Home Task # 5

```
#include<iostream>

using namespace std;

int main()
{
    //Defining variable
    char b;

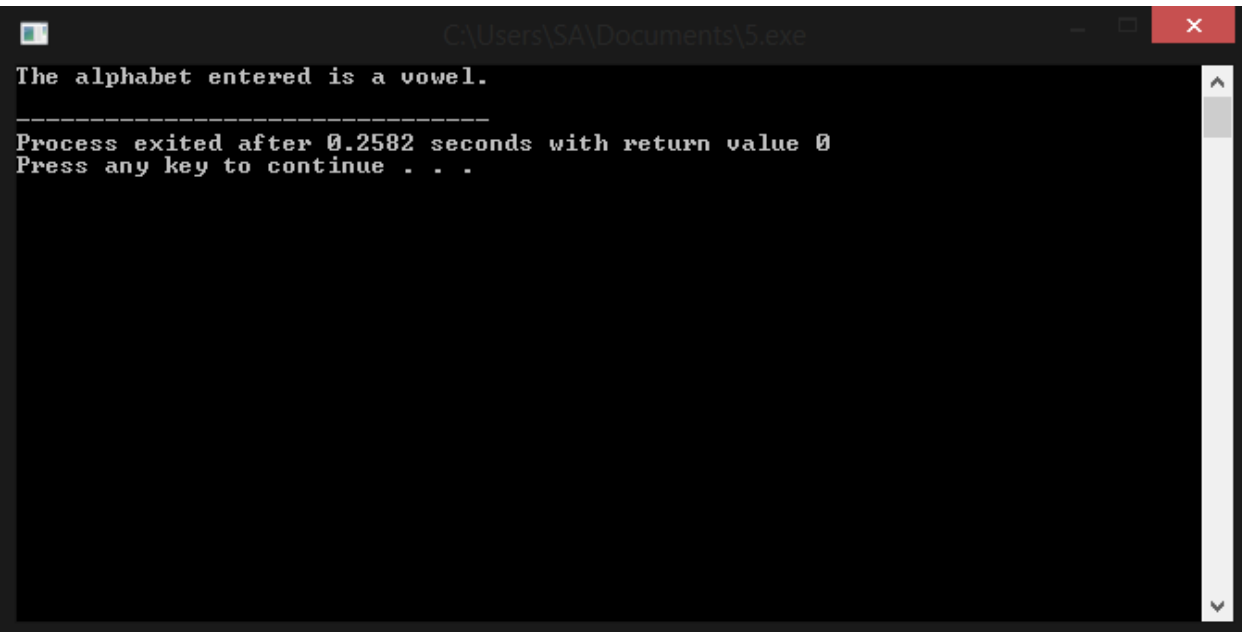
    b='A';

    //Checking if the variable is vowel or a consonant
    if
(b=='a' || b=='e' || b=='i' || b=='o' || b=='u' || b=='A' || b=='E' || b=='I' || b=='
O' || b=='U')
        cout<<"The alphabet entered is a vowel."<<endl;

    else
        cout<<"The alphabet is a consonant."<<endl;
}
```

5.cpp

```
1  #include<iostream>
2  using namespace std;
3
4  int main()
5  {
6      //Defining variable
7      char b;
8      b='A';
9
10     //Checking if the variable is vowel or a consonant
11     if (b=='a' || b=='e' || b=='i' || b=='o' || b=='u' || b=='A' || b=='E' || b=='I' || b=='O' || b=='U')
12         cout<<"The alphabet entered is a vowel."<<endl;
13
14     else
15         cout<<"The alphabet is a consonant."<<endl;
16 }
```



```
C:\Users\SA\Documents\S.exe
The alphabet entered is a vowel.
-----
Process exited after 0.2582 seconds with return value 0
Press any key to continue . . .
```