



NUST

NATIONAL UNIVERSITY
OF SCIENCES & TECHNOLOGY

Assignment-1

SECTION –C

SUBJECT : Computer Systems and
Programming

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TASK 1

```
#include <iostream>
using namespace std;

int main() {
    int score;
    char grade;

    cout << "Enter the student's score: ";
    cin >> score;

    if (score >= 90) {
        grade = 'A';
    }
    else if (score >= 75) {
        grade = 'B';
    }
    else if (score >= 60) {
        grade = 'C';
    }
    else if (score >= 45) {
        grade = 'D';
    }
    else {
        grade = 'F';
    }

    cout << "The student's grade is: " << grade << endl;

    return 0;
}
```

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Microsoft Visual Studio Debug Console

```
Enter the student's score: 90
The student's grade is: A

C:\Users\user\source\repos\visual studio\vs demo\Project1\CS110\Project27\x64\Debug\Project27.exe (process 2472) exited
with code 0.
Press any key to close this window . . . . .
```

TASK 2

```
#include <iostream>
using namespace std;

int main() {
    int num;

    cout << "Enter an integer: ";
    cin >> num;

    if (num % 2 == 0 && num % 5 == 0) {
        cout << "The number is both even and divisible by 5." << endl;
    }
    else {
        cout << "The number is not both even and divisible by 5." << endl;
    }

    return 0;
}
```

Microsoft Visual Studio Debug Console

Enter an integer: 7
The number is not both even and divisible by 5.

C:\Users\user\source\repos\visual studio\vs demo\Project1\CS110\Project27\x64\Debug\Project27.exe (process 12580) exited with code 0.
Press any key to close this window . . .

TASK 3

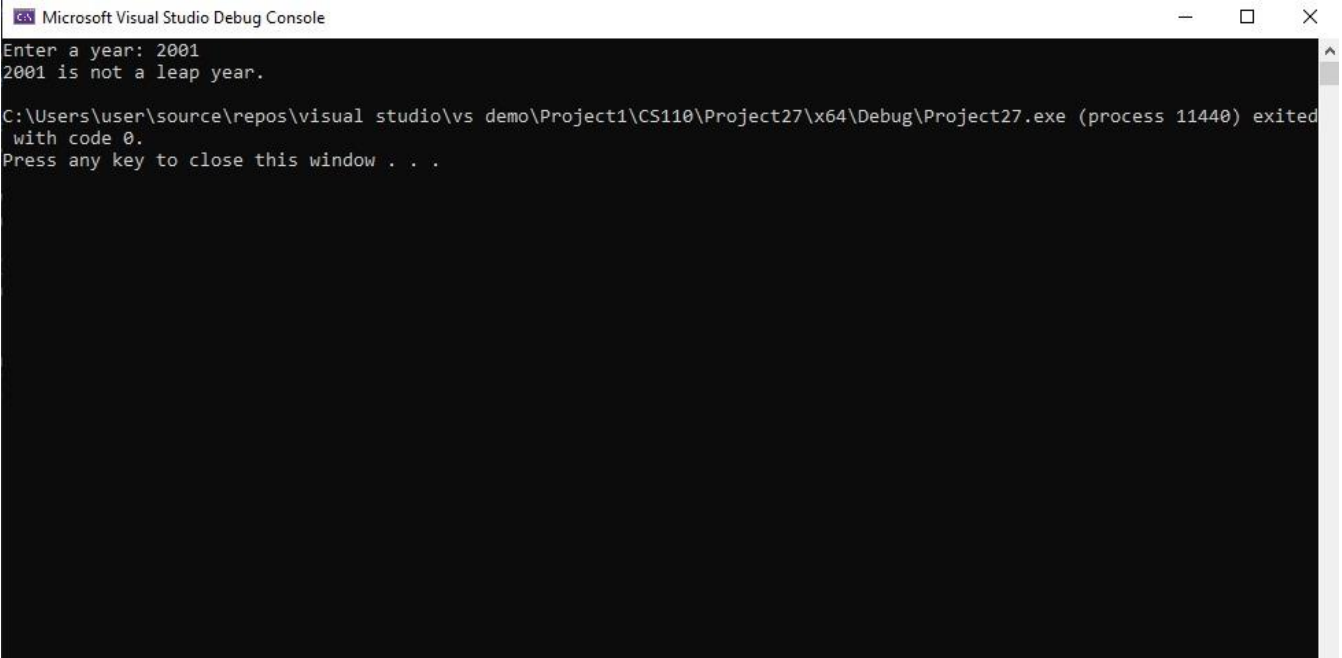
```
#include <iostream>
using namespace std;

int main() {
    int year;

    cout << "Enter a year: ";
    cin >> year;

    if ((year % 4 == 0 && year % 100 != 0) || year % 400 == 0) {
        cout << year << " is a leap year." << endl;
    }
    else {
        cout << year << " is not a leap year." << endl;
    }

    return 0;
}
```

A screenshot of the Microsoft Visual Studio Debug Console window. The window has a title bar with the text "Microsoft Visual Studio Debug Console" and standard window controls (minimize, maximize, close). The console output shows the program's execution: it prompts "Enter a year: 2001", outputs "2001 is not a leap year.", and then displays the exit message: "C:\Users\user\source\repos\visual studio\vs demo\Project1\CS110\Project27\x64\Debug\Project27.exe (process 11440) exited with code 0. Press any key to close this window . . .".

Microsoft Visual Studio Debug Console

Enter a year: 2001
2001 is not a leap year.

C:\Users\user\source\repos\visual studio\vs demo\Project1\CS110\Project27\x64\Debug\Project27.exe (process 11440) exited with code 0.
Press any key to close this window . . .

TASK 4

```
#include <iostream>
using namespace std;

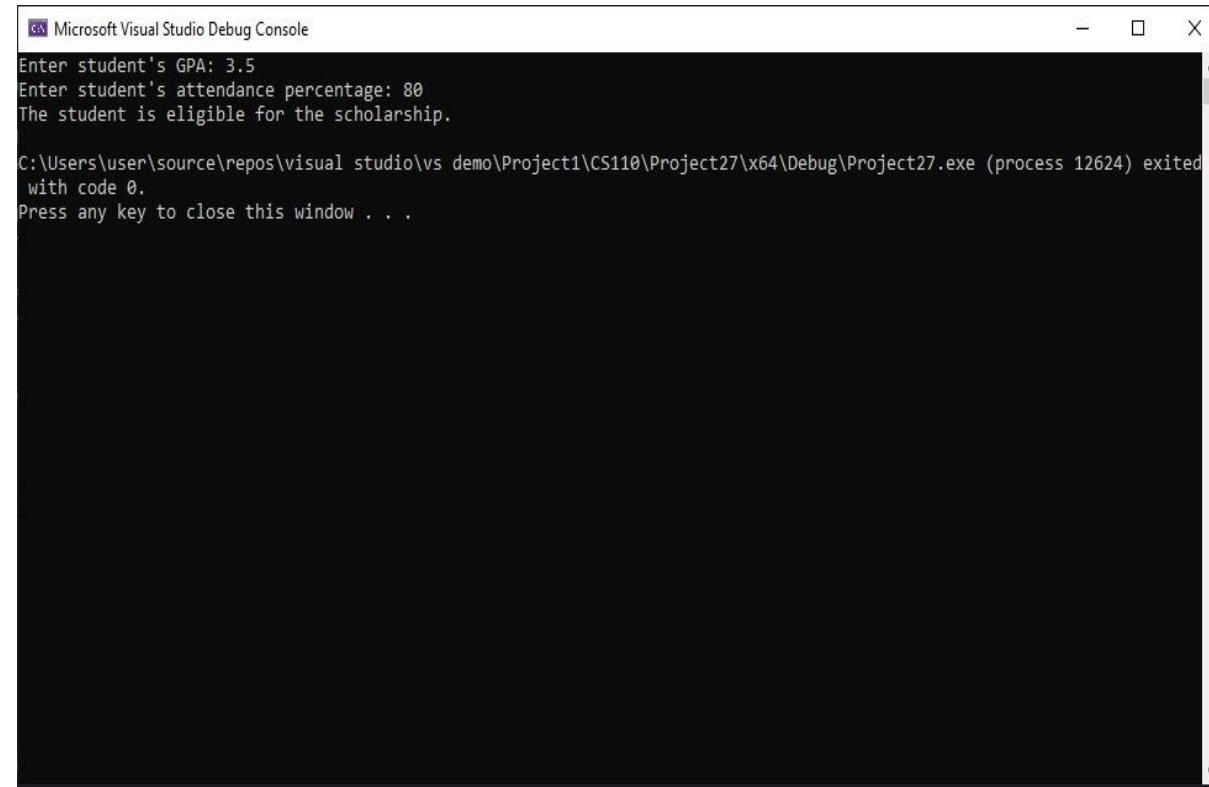
int main() {
    float gpa;
    int attendance;

    cout << "Enter student's GPA: ";
    cin >> gpa;

    cout << "Enter student's attendance percentage: ";
    cin >> attendance;

    if (gpa >= 3.5 && attendance >= 80) {
        cout << "The student is eligible for the scholarship." << endl;
    }
    else {
        cout << "The student is not eligible for the scholarship." << endl;
    }

    return 0;
}
```



Microsoft Visual Studio Debug Console

Enter student's GPA: 3.5
Enter student's attendance percentage: 80
The student is eligible for the scholarship.

C:\Users\user\source\repos\visual studio\vs demo\Project1\CS110\Project27\x64\Debug\Project27.exe (process 12624) exited with code 0.
Press any key to close this window . . .

TASK 5

```
#include <iostream>
using namespace std;

int main() {
    char character;

    cout << "Enter a character: ";
    cin >> character;

    // Convert the character to lowercase for easier comparison
    character = tolower(character);

    if (character == 'a' || character == 'e' || character == 'i' || character == 'o' || character == 'u') {
        cout << "The character is a vowel." << endl;
    }
    else {
        cout << "The character is a consonant." << endl;
    }

    return 0;
}
```

Microsoft Visual Studio Debug Console

Enter a character: a
The character is a vowel.

C:\Users\user\source\repos\visual studio\vs demo\Project1\CS110\Project27\x64\Debug\Project27.exe (process 12532) exited with code 0.
Press any key to close this window . . .