

**CS-114 - Fundamental of Programing**

**Lab Manual # 2**

**Home Task**

Submitted To: Muhammad Affan

Submitted By: Shahzaib Murtaza (466034)

Section: B

1. Create a program that takes a student's score as input and assigns a grade based on predefined criteria using logical operators (e.g., A, B, C, D, F). A-Grade: 90-100, Marks B-Grade: 75-90, Marks C-Grade: 60-75, Marks D-Grade: 45-60, Marks F-Grade: 0-45 Mark.

#include<iostream>

using namespace std;

int main(){

// Get the student's marks

int marks;

cout << "Enter Marks :";

cin>>marks;

// Assign a grade based on the score

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

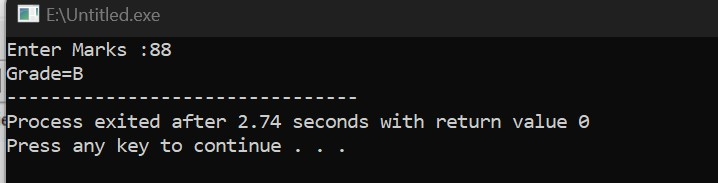
{

cout<<"Invalid Marks";

} // Exit with an error code

return 0;

}



2. Write a program that takes an integer as input and determines if it is both even and divisible by 5.

#include <iostream>

using namespace std;

int main(){

int num;

// Get the integer input

cout << "Enter number: ";

cin >> num;

// Check if the number is both even and divisible by 5

if (num % 2 == 0){

if (num % 5 == 0){

cout << "Even and divisible by 5.";

}

else{

cout << "Even and not divisile by 5.";

}

}

else if (num % 5 == 0){

cout << "Odd and divisible by 5.";

}

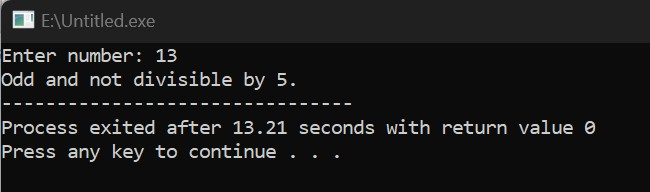
else {

cout << "Odd and not divisible by 5.";

}

return 0;

}



3. Create a C++ program that checks if a user-provided year is a leap year.

#include <iostream>

using namespace std;

int main(){

int year;

// Get the year input from the user

cout << "Enter year: ";

cin >> year;

// Check if the year is a leap year

if (year % 100== 0 && year%400==0){

cout << "Leap year";

} // Display the result

else if(year%100!=0 && year%4==0) {

cout << "Leap year";

}

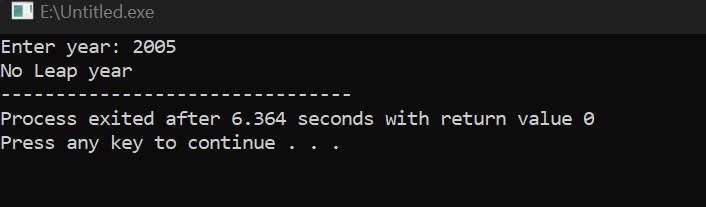
else{

cout<<"No Leap year";

}

return 0;

}



4. Create a C++ program that determines if a student is eligible for a scholarship based on their GPA (must have GPA >= 3.5) and attendance (must have attended at least 80% of classes).

#include <iostream>

using namespace std;

int main() {

double gpa,attendance;

// Get student's GPA and attendance percentage

cout<<"Enter GPA:";

cin>>gpa;

cout<<"Enter Attendance:";

cin>>attendance;

// Check if the student is eligible for a scholarship

if(gpa>=3.5 && attendance>=80){

cout<<"Eligible for Scholarship";

}

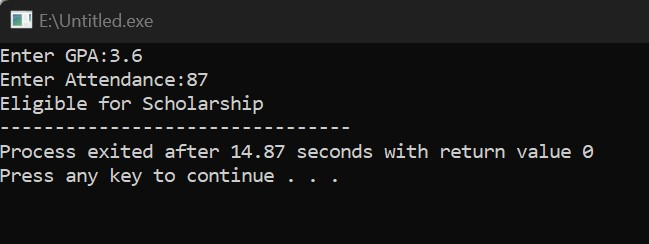
else{

cout<<"Not Eligible for Scholarship";

}

return 0;

}



5. Write a program that checks if a given character is a vowel (a, e, i, o, u) or a consonant using logical operators.

#include <iostream>

using namespace std;

int main(){

char letter;

// Get the character input from the user

cout << "Input letter: ";

cin >> letter;

// Check if the character is a vowel or a consonant

if (letter == 'a' || letter == 'e'|| letter == 'i'|| letter == 'o'|| letter == 'u'){

cout << "It's a vowel.";

}

else {

cout << "Not a vowel.";

}

return 0;

}

