CGB1121 – PYTHON PROGRAMMING
PROJECT REVIEW-1

Department of Computer Science and Engineering
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Title of the Project

Leap Year Checker

Abstract

- A leap year is a year that is divisible by 4, except for end of - century years, which must be divisible by 400. This project aims to develop a Python program that checks whether a given year is a leap year or not. The program takes user input and applies conditional statements to determine the leap year status. This project demonstrates fundamental programming concepts, including conditional statements, input handling, and modular programming in Python.

Abstract with CO/PO Mapping

Abstract	CO	POs	PSO
>The **Leap Year Checker** project is a Python-based program designed to determine whether a given year is a leap year. It uses conditional statements and modular arithmetic to apply leap year rules. The program enhances logical thinking and programming skills through structured implementation and testing. >The project involves implementing user input handling, conditional decision-making, and function-based modularity in Python. The goal is to provide an interactive and efficient solution for leap year verification	CO1: Understand leap year logic. CO2: Implement conditional statements in Python.	PO1: Apply knowledge of mathematics and engineering. PO2: Identify and solve computational problems.	PSO1: Develop problem-solving skills using Python. PSO2: Strengthen programming fundamentals.

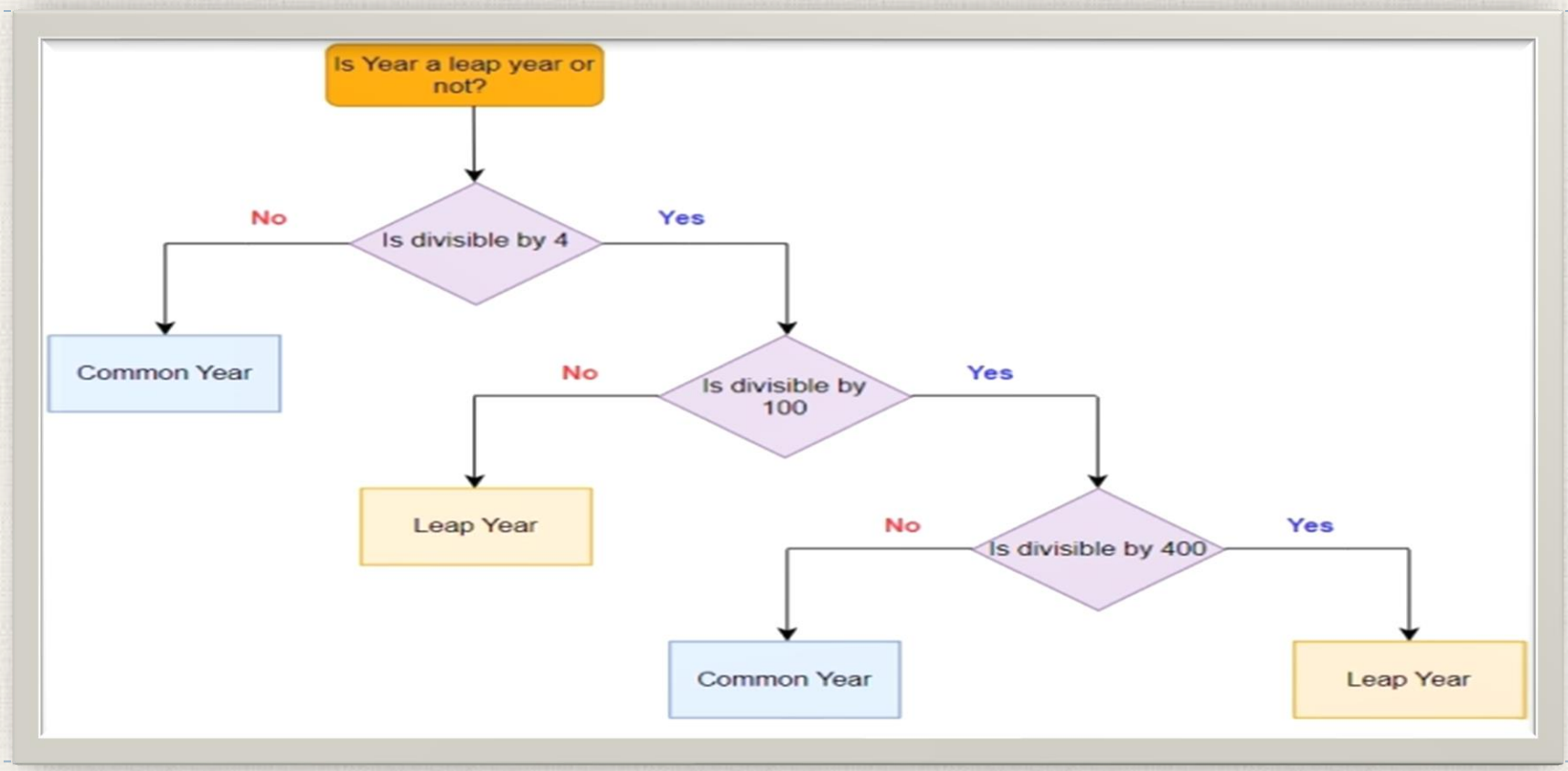
Introduction

- A leap year occurs every four years to compensate for the extra time taken by the Earth to revolve around the Sun. While most years have 365 days, a leap year consists of 366 days, with February having 29 days instead of 28. This project focuses on developing a Python program to determine leap years based on mathematical rules. The program will enhance logical thinking and programming skills by using conditions and modular programming.

Python Programming - Concepts Used

- **Conditional Statements**: `if`, `elif`, `else`
- **User Input Handling**: `input()` function
- **Type Conversion**: `int()` for numerical operations
- **Modular Arithmetic**: % operator for divisibility checks

Proposed Architecture



Proposed Architecture - Description

- The user enters a year.
- The program checks if the year is divisible by 4.
- If the year is divisible by 100, it must also be divisible by 400 to be considered a leap year.
- The program returns whether the input year is a leap year or not.

List of Modules

- User Input Module
- Leap Year Calculation Module
- Output Display Module
- Testing Module

Description of Modules

1.User Input Module

- Accepts input from the user.
- Ensures valid numerical input for processing.

2. Leap Year Calculation Module

- Implements the leap year checking logic:
- If the year is divisible by 4 but not by 100, it is a leap year.
- If the year is divisible by both 100 and 400, it is a leap year.
- Otherwise, it is not a leap year.

Thank You

ANY QUERIES???