Assignment Number 2

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Q1: Create a program to determine whether a given year is a leap year.

```python
year = int(input("Enter a year: "))

if (year % 4 == 0 and year % 100 != 0) or (year % 400 == 0):
    print(year, "is a leap year.")
else:
    print(year, "is not a leap year.")
```

Q2: Build a simple calculator that asks for two numbers and an operator (+, -, *, /) and prints the result.

```python
num1 = float(input("Enter first number: "))
num2 = float(input("Enter second number: "))
operator = input("Enter operator (+, -, *, /): ")

if operator == '+':
    print("Result:", num1 + num2)
elif operator == '-':
    print("Result:", num1 - num2)
elif operator == '*':
    print("Result:", num1 * num2)
elif operator == '/':
    if num2 != 0:
        print("Result:", num1 / num2)
    else:
        print("Error: Division by zero")
else:
    print("Invalid operator")
```

Q3: Write a Python program that accepts a student's marks and prints the appropriate grade.

```python
marks = int(input("Enter marks: "))

if marks >= 85:
    print("Grade: A")
elif marks >= 70:
    print("Grade: B")
elif marks >= 50:
    print("Grade: C")
else:
    print("Grade: F")
```

Summary

- 'if' is used for a single condition.
- 'else' provides an alternative if the 'if' condition is False.
- 'elif' allows checking multiple conditions.
- Logical operators can be used to combine conditions.