Questions

Assignment Problems

Easy Level

1. **Odd or Even**: Write a program that takes an integer input from the user and prints whether the number is odd or even.
2. **Positive, Negative, or Zero**: Create a program that checks if a number entered by the user is positive, negative, or zero and prints the result.
3. **Grade Evaluation**: Write a program that takes a student's score (0-100) and prints the corresponding letter grade (A, B, C, D, F).
4. **Age Check**: Develop a program that asks for a user's age and determines if they are eligible to vote (age 18 or older).
5. **Temperature Check**: Write a program that takes a temperature in Celsius and prints whether it is "Freezing", "Cold", "Warm", or "Hot" based on predefined ranges.
6. **Divisibility Check**: Create a program that checks if a number is divisible by 3 and/or 5 and prints appropriate messages.
7. **Leap Year Checker**: Write a program that determines if a given year is a leap year or not.
8. **Simple Calculator**: Create a basic calculator that takes two numbers and an operator (+, -, *, /) from the user and performs the operation, handling division by zero appropriately.

Medium Level

1. **BMI Calculator**: Write a program that calculates the Body Mass Index (BMI) based on user-provided weight and height, then categorizes it as Underweight, Normal weight, Overweight, or Obesity.
2. **Discount Calculator**: Create a program that calculates the final price of an item based on its original price and applies discounts based on predefined conditions (e.g., 10% off for prices over $100).
3. **Grade Classification**: Extend the grade evaluation problem to classify grades into categories (e.g., "Excellent", "Good", "Average", "Poor") based on score ranges.
4. **Password Strength Checker**: Write a program that checks if a password is strong based on conditions such as length, presence of digits, uppercase letters, and special characters.
5. **Traffic Light Simulation**: Create a program that simulates traffic light behavior where it takes input for the light color (red, yellow, green) and outputs what vehicles should do.
6. **Simple Interest Calculator**: Develop a program that calculates simple interest given principal amount, rate of interest, and time period while checking for valid input values.
7. **Number Range Checker**: Write a program that checks if an input number falls within a specified range (e.g., 1 to 100) and prints different messages based on where it falls.
8. **Even Number Counter**: Create a program that counts how many even numbers are in a list of user-inputted numbers until the user enters -1 to stop.
9. **Rock-Paper-Scissors Game**: Implement a simple rock-paper-scissors game where the user plays against the computer, determining the winner based on inputs.
10. **Month Days Checker**: Write a program that asks for a month number (1-12) and returns how many days are in that month, considering leap years for February.
11. **Grade Point Average (GPA) Calculator**: Create a program that calculates GPA based on letter grades entered by the user and converts them into grade points using standard values.
12. **Simple Voting System**: Develop a voting system where users can vote for one of three candidates; ensure each user can only vote once by checking against previous votes stored in a list.