Exercise 1: Prime Numbers

A prime number is a number that is only evenly divisible by itself and 1. For example, the number 5 is prime because it can only be evenly divided by 1 and 5. The number 6, however, is not prime because it can be divided evenly by 1, 2, 3, and 6.

Write program that prompts the user to enter a number then displays a message indicating whether the number is prime.

Create at least one function for the program.

Exercise 2: Test Scores

Write a program that asks the user to enter five test scores. The program should display a letter grade for each score and the average test score. Write the following functions in the program:

Create at least two functions for the program.

Exercise 3: Guessing Game

Write a program that generates a random number in the range of 1 through 100 and asks the user to guess what the number is. If the user’s guess is higher than the random number, the program should display “Too high, try again.” If the user’s guess is lower than the random number, the program should display “Too low, try again.” If the user guesses the number, the application should congratulate the user and generate a new random number, so the game can start over.

Create at least one function for the program.

Exercise 4: Rock, Paper, Scissors Game

Write a program that lets the user play the game of Rock, Paper, Scissors against the computer. The program should work as follows:

1. When the program begins, a random number in the range of 1 through 3 is generated. If the number is 1, then the computer has chosen rock. If the number is 2, then the computer has chosen paper. If the number is 3, then the computer has chosen scissors. (Don’t display the computer’s choice yet.)
2. The user enters his or her choice of “rock,” “paper,” or “scissors” at the keyboard.
3. The computer’s choice is displayed.
4. A winner is selected according to the following rules:
   * If one player chooses rock and the other player chooses scissors, then rock wins. (Rock smashes scissors.)
   * If one player chooses scissors and the other player chooses paper, then scissors wins. (Scissors cuts paper.)
   * If one player chooses paper and the other player chooses rock, then paper wins. (Paper wraps rock.)
   * If both players make the same choice, the game must be played again to determine the winner.

Create at least two functions for the program.