Quiz Two: Introduction to Python.

Question 1:

Write a Python function named "is_even" that takes an integer as input and returns True if the number is even, and False otherwise

Question 2:

Write a Python function named "calculate_average" that takes a list of numbers as input and returns the average value. Write the code for the function.

Question 3:

Using python, write a function named "calculate_discounted_price" that takes the original price of an item and a discount percentage as input, and returns the discounted price.

Question 4:

Using Python, write a function named "count_vowels" that takes a string as input and returns the count of vowels (a, e, i, o, u) in the string. Ignore case sensitivity.

Question 5:

Write a Python function named "calculate_shipping_cost" that takes the weight of a package and the distance to be shipped as input. The function should calculate and return the shipping cost based on the following criteria:

- If the weight is less than or equal to 5 kg and the distance is less than or equal to 100 km, the shipping cost is $10.
- If the weight is less than or equal to 10 kg and the distance is less than or equal to 500 km, the shipping cost is $20.
- If the weight is less than or equal to 20 kg and the distance is less than or equal to 1000 km, the shipping cost is $30.
- For any other weight or distance, the shipping cost is $50.

Question 7:

Create a dictionary called "student_info" with keys "name", "age", and "grade", and add values for a fictional student.

i.   Access the "age" of the student from the "student_info" dictionary.
ii. Update the "grade" of the student to "A+" in the "student_info" dictionary.

iii.   Check if the key "gender" exists in the "student_info" dictionary. Return True if it exists, otherwise False.

iv.   Remove the "age" key and its value from the "student_info" dictionary.

Question 8:

You are given a list of strings called "fruits," which contains the names of various fruits. Write a Python program that uses a for loop to print only the fruits that start with the letter "a."

fruits = ["apple", "banana", "orange", "apricot", "kiwi", "avocado", "pear", "grape", "mango", "lemon"]

Question 9:

Create a program that asks the user to enter two numbers. Use a try-except block to handle the "TypeError" that may occur if the user enters a value that cannot be converted to a number. If a TypeError occurs, print an error message and prompt the user to enter valid numbers.

Question 10:

Create a simple Python program that allows the user to guess a secret number. The user will have a total of 4 trials to guess the correct number. If they guess the number correctly within the given trials, they win the game. Otherwise, they lose the game.

Instructions:

The program should randomly generate a secret number between 1 and 20, inclusive.

i.   Display a welcome message and inform the user that they have 4 trials to guess the secret number.

ii.   Inside a for loop, allow the user to input their guess for each trial. You should handle any non-integer inputs by displaying an appropriate error message and allowing the user to retry the current trial.

iii.   Compare the user's guess with the secret number. If they guess correctly, print a winning message and terminate the loop immediately. Otherwise, provide appropriate feedback (e.g., "Too high!" or "Too low!") to help the user guess correctly in subsequent trials.

iv.   If the user cannot guess the secret number within the given 4 trials, print a losing message along with the correct secret number.