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#CSCE 101
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while (True): # start of infinite loop for the main program
    # Print the menu
    print ("-----")
    print ("Program Modes:")
    print ("(1) Side Lengths")
    print ("(2) Angles")
    print ("(3) Quit")
    choice = int(input("Enter mode:"))

    if (choice == 1):
        # Ask user for side lengths
        print("You chose to work with side lengths:")

        length1 = input("Please enter the first Length of the Triangle: ");
        length1 = float(length1);

        length2 = input ("Please enter the second smallest Length of the Triangle:
");
        length2 = float(length2);

        length3 = input("Please enter the third Length of the Triangle: ");
        length3 = float(length3);

        #reordering the lengths for the users convince

        if(length2 > length3 and length2 > length1):
            lengthBig = length3;
            length3 = length2;
            length2 = lengthBig;

            if(length2 < length1):
                lengthSmall = length2;
                length1 = length2;
                length2 = lengthSmall;

            print(length1, length2, length3)

        elif(length1 > length3 and length1 > length2):
            lengthBigBig =length3;
            length3 = length1;
            length1 = lengthBigBig;

            if(length1 < length2):
                lengthSmallest = length1;
                length1 = length2;
                length1 = lengthSmallest;

            print(length1, length2, length3)

        #Over with reordering
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    if (length3 > length2 and length3 > length1 and length1 + length2 >
length3):

        if (length2 == length1):
            print("This is a Isosceles Triangle.");

        elif (length2 != length1):
            print("This is a Scalene Triangle.");

    elif(length1 == length2 == length3):
        print("This is a Equilateral Triangle.");

    else:
        print("The lengths that you have inputted are invalid. Please make sure
all numbers are positive and in the right order.")

    elif (choice == 2):
        # Ask user for angles
        angle1 = float(input("Enter Angle 1: "))
        angle2 = float(input("Enter Angle 2: "))
        angle3 = float(input("Enter Angle 3: "))

        if ((angle1 + angle2 + angle3) == 180):
            # The triangle is valid

            # Check if it's an obtuse triangle
            if (angle1 > 90 or angle2 > 90 or angle3 > 90):
                print("This is an obtuse triangle.")

            # Check if it's a right triangle
            elif (angle1 == 90 or angle2 == 90 or angle3 == 90):
                print("This is a right triangle.")

            # Check if it's an acute triangle
            elif (angle1 < 90 or angle2 < 90 or angle3 < 90):
                print("This is an acute triangle.")

        else:
            print("Choose angles that sum up to 180.")

    elif (choice == 3):
        #quit the program with a good bye message
        print("Good bye!")
        # ...
        break

    else:
        print("This was an invalid choise. Please pick one of the number choices
provided.");

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