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Course: PHY 1112

Assignment: 2

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Question 1

*def* question1():

    num = input("Enter a number: ")

    #End of part a

    print (num\*30)

    #End of part b. At this step, when question1 is run, the program will prompt the user for a string input. When any input is entered, the program attempts to multiply the input by 30. However, since the input is a string, the program will print the input 30 times.

    num = *float*(num)

    print (num\*30)

    #End of part c. At this step, when question1 is run, the program will prompt the user for a string input. When any input is entered, the program attempts to multiply the input by 30. However, since the input is a string, the program will print the input 30 times. Then, the input is converted to a float, and the program will print the input multiplied by 30. In the case that a decimal is entered, the number is multiplied by 30.

    num = *int*(num)

    print (num\*30)

    #End of part d. At this step, when question1 is run, the program will prompt the user for a string input. When any input is entered, the program attempts to multiply the input by 30. However, since the input is a string, the program will print the input 30 times. Then, the input is converted to an integer, and the program will print the input multiplied by 30. In the case that a decimal is entered, the number is rounded to the nearest whole number and the rounded value is multiplied by 30.

Screenshot of question 1 results

A black background with white numbers

Description automatically generated

Question 2 – Varying “Degrees “ of Frustration

*def* question2():

    deg = *float*(input("Please enter an angle measured in degrees: "))

    rad = deg\*3.14159/180

    smallest\_rad = rad%(2\*3.14159)

    print(smallest\_rad)

    print(*str*(smallest\_rad/3.13159) + "\u03C0")

    #Upon testing with an angle of 960 degrees, the program prints 4.188786666666665. This is because the program is calculating the smallest radian measure of the angle, which is 4.188786666666665 radians (240 degrees).

Screenshot of question 2 results.

A screenshot of a computer

Description automatically generated

Question 3 – NOR and XOR

*def* question3():

    condition1 = input("Enter a boolean value (T/F): ").lower()

    condition2 = input("Enter a boolean value (T/F): ").lower()

    if condition1 == "t":

        condition1 = True

    else:

        condition1 = False

    if condition2 == "t":

        condition2 = True

    else:

        condition2 = False

    nor = not (condition1 or condition2)

    print(nor)

    xor = condition1 ^ condition2

    print(xor)

    #Results of testing:

    #True True: False False

    #True False: False True

    #False True: False True

    #False False: True False

Screenshot of question 3 results.

A screenshot of a computer

Description automatically generated

Question 4 – Were you list-ening?

*def* question4():

    l = [1, 2, 3, 1*j*, "2.0"]

    for i in range (len(l)):

        print(*type*(l[i]))

    print(len(l))

    l.append(4)

    l.append(5)

    l.append(6)

    print(l)

    l.extend([7, 8, 9])

    print(l)

    l.insert(0, 0)

    print(l)

    l.index(1*j*)

    print(l)

    l.pop(l.index(1*j*))

    print(l)

    l.remove("2.0")

    print(l)

    l2 = l[2:5]

    print(l2)

    l3 = l[1:-1]

    print(l3)

Screenshot of question 4 results.

A screenshot of a computer program

Description automatically generated