Lab #3

Programming and Algorithms

Please complete all of the following questions:

1. Write a Python program to read in two variables and to print out the one that is the smaller of the two.

HINT:

# PROGRAM SmallerOfTwo:

x = int(input("Please input the first value\n"))

y = int(input("Please second the second value\n"))

if \_\_\_\_\_\_:

# THEN

print(x, "is smaller than", y)

else:

print(y, "is smaller than", x)

# ENDIF;

# END.

1. Write a Python program to read in two variables and check if they are the same number.

HINT:

# PROGRAM AreTheyEqual:

X = int(input("Please input the first value\n"))

y = int(input("Please second the second value\n"))

if \_\_\_\_\_\_:

# THEN

print(Both values are the same: ", x)

else:

print(x, "is not the same as", y)

# ENDIF;

# END.

1. Write a Python program to determine if an input number is less than zero.

HINT:

# PROGRAM LessThanZero:

x = int(\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)

if \_\_\_\_\_\_:

# THEN

print(x, “is less than zero”)

else:

print(x, “is not less than zero”)

# ENDIF;

# END.

1. Write a Python program to determine if an input number is evenly divisible by 3.

HINT:

# PROGRAM DivisibleByThree:

X = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

if \_\_\_\_\_\_:

# THEN

print(\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)

else:

print(\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)

# ENDIF;

# END.

1. Write a Python program to tell fortunes:

HINT:

# PROGRAM FortuneTeller:

X = input("Would you like your fortune told (y/n): \n")

if \_\_\_\_\_\_\_\_\_\_:

# THEN

y = input("What is your name?\n")

print(y, “, you have a need for other people to like and admire you, and yet you tend to be critical of yourself. While you have some personality weaknesses you are generally able to compensate for them. You have considerable unused capacity that you have not turned to your advantage. Disciplined and self-controlled on the outside, you tend to be worrisome and insecure on the inside. At times you have serious doubts as to whether you have made the right decision or done the right thing. You prefer a certain amount of change and variety and become dissatisfied when hemmed in by restrictions and limitations. You also pride yourself as an independent thinker; and do not accept others' statements without satisfactory proof. But you have found it unwise to be too frank in revealing yourself to others. At times you are extroverted, affable, and sociable, while at other times you are introverted, wary, and reserved. Some of your aspirations tend to be rather unrealistic.”)

else:

print(“OK, Have a nice day”)

# ENDIF;

# END.

SECOND HINT:

You don’t need to type in all the text above, you can just copy-and-paste it, but my advice is to copy just the text.

1. Write a Python program to read in three variables and to print out the one that is the smallest of the three.

HINT:

# PROGRAM SmallerOfThree:

x = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

y = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

z = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

if \_\_\_\_\_\_:

# THEN

if \_\_\_\_\_\_:

# THEN

print(\_\_, "is smaller than", \_\_, “and”,\_\_)

else:

print(\_\_, "is smaller than", \_\_, “and”,\_\_)

# ENDIF;

else:

if \_\_\_\_\_\_:

# THEN

print(\_\_, "is smaller than", \_\_, “and”,\_\_)

else:

print(\_\_, "is smaller than", \_\_, “and”,\_\_)

# ENDIF;

# ENDIF;

# END.

1. Write a Python program to read in three variables and to print out the one that is the smallest of the three, using ELIF.

HINT:

# PROGRAM SmallerOfThree:

x = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

y = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

z = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

if \_\_\_\_\_\_:

# THEN

if \_\_\_\_\_\_:

# THEN

print(\_\_, "is smaller than", \_\_, “and”,\_\_)

else:

print(\_\_, "is smaller than", \_\_, “and”,\_\_)

# ENDIF;

elif \_\_\_\_\_\_:

# THEN

print(\_\_, "is smaller than", \_\_, “and”,\_\_)

else:

print(\_\_, "is smaller than", \_\_, “and”,\_\_)

# ENDIF;

# END.

1. Write a Python program to read in a result and determine if it’s Leaving Cert Grade, which works as follows:

|  |  |
| --- | --- |
| A1 | 90-100 |
| A2 | 85-89 |
| B1 | 80-84 |
| B2 | 75-79 |
| B3 | 70-74 |
| C1 | 65-69 |
| C2 | 60-64 |
| C3 | 55-59 |
| D1 | 50-54 |
| D2 | 45-49 |
| D3 | 40-44 |
| FAIL | 0-39 |

HINT:

# PROGRAM GetGrade:

InputValue = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

if InputValue >= 90:

# THEN

print(\_\_\_\_\_\_\_\_\_\_\_)

elif \_\_\_\_\_\_\_\_\_\_\_\_\_\_

# THEN

print(\_\_\_\_\_\_\_\_\_\_\_)

elif \_\_\_\_\_\_\_\_\_\_\_\_\_\_

# THEN

print(\_\_\_\_\_\_\_\_\_\_\_)

:

:

:

else:

print("Dude, sorry, it's a fail")

# ENDIF;

# END.

|  |
| --- |
| e-mail me a completed solution to each of the above programs in a Word document, and include Lab #1 and Lab #2 in this document also.  e-mail to [Damian.Gordon@dit.ie](mailto:Damian.Gordon@dit.ie) with subject heading “DT255 PaA Lab #1-3” |