Homework for y10-01-ct1

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Question 1

Setup a working environment for using Python at home. Your tutor will have advised you what the requirements are. You may set up an environment just like that at school or learn how to use one of the on-line development environments.

* Which environment did you setup?

……………………………………………………………………………………………………………

* How did you test it to make sure it worked?

……………………………………………………………………………………………………………

**Question 2**

* Complete the table to predict what these lines of code will do. You can also copy them into your Python environment and run them to check your answers.

|  |  |  |
| --- | --- | --- |
| **Code** | **Prediction** | **Actual output** |
| **print** (22 + 11) |  |  |
| **print** (22 - 11) |  |  |
| **print** (22 / 11) |  |  |
| **print** (2 \* 11) |  |  |
| **print** (11 % 2) |  |  |
| **print** (11 // 2) |  |  |
| **print** (11 \*\* 2) |  |  |

**Question 3**

Complete both tables.

* Complete the table on the right by giving the data type of the value. Choose from integer, real, Boolean, or character.
* Complete the table on the left with a Value from the table on the right.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Variable** | **Value** |  | **Value** | **Data type**  **(integer, real, Boolean, character)** |
| myClass = |  |  | **True** |  |
| numStudentsInSchool = |  |  | **"n"** |  |
| sizeFlour = |  |  | **"7CS-12"** |  |
| myTeacher = |  |  | 5 |  |
| isWeekday = |  |  | 1.5 |  |
| numLives = |  |  | **"y"** |  |
| yes = |  |  | **False** |  |
| temp = |  |  | 21.5 |  |
| no = |  |  | **"Ms. Collins"** |  |
| isBankHoliday = |  |  | 1515 |  |

**Question 4**

Here are some lines of Python code. Underline variables, wherever they appear, and circle the keywords that make up the syntax of the language.

print (**"I am a sweet program."**)  
sweets = 34  
costPerSweet = 0.10  
totalCost = sweets \* costPerSweet  
print (**"The sweets cost "**, totalCost)

**Question 5**

Here are some lines of Python code. They each use the same numbers and operations, but have ordered them in different ways.

answer = 100 - (2 \*\* 4) / ((3 \* 2) + 15)  
print (answer)  
answer = (100 - 2) \*\* 4 / (3 \* 2) + 15  
print (answer)  
answer = 100 - 2 \*\* (4 / 3) \* 2 + 15  
print (answer)  
answer = 100 - 2 \*\* 4 / 3 \* 2 + 15  
print (answer)

* Copy the lines, carefully, into your Python environment and run them. Complete the table with the outputs.

|  |  |
| --- | --- |
| **Code** | **Output** |
| answer = 100 - (2 \*\* 4) / ((3 \* 2) + 15) |  |
| answer = (100 - 2) \*\* 4 / (3 \* 2) + 15 |  |
| answer = 100 - 2 \*\* (4 / 3) \* 2 + 15 |  |
| answer = 100 - 2 \*\* 4 / 3 \* 2 + 15 |  |

* Here is the last line again. Notice that it has no brackets at all. Add brackets to show the operations in order of precedence. The correct ordering of the brackets will produce the exact same result as the last line of code in the above table.

answer = 100 - 2 \*\* 4 / 3 \* 2 + 15