**Problem 1: string comparison**

Hint: the following is True: "" < "0" < "9" < "A" < "Z" < "a" < "z"

Circle the expressions that are True:

|  |  |  |
| --- | --- | --- |
| "a" < "z" | "ax" < "ay" | "abc" < "abCd" |
| "a" < "Z" | "x2" < "x1" | "zero" < "999" |
| "x" < "x" | "abcX" < "abcY" | "10" < "999" |
| "0" < "x" | "abcX" < "aBcY" | "1000" < "999" |
| "1" < "0" | "abc" < "abcd" | "88888888888" < "9" |

**Problem 2: string functions**

Functions: upper, lower, strip, rstrip, lstrip, format, startswith, endswith, find.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Expression:** | **Value (put in quotes):** |  | **Expression:** | **Value** |
| "dog".upper() |  |  | "abcd".startswith("ab") |  |
| "Dog".lower() |  |  | "abcd".endswith("bc") |  |
| " paint ".strip() |  |  | "abcd".find("a") |  |
| " paint ".rstrip() |  |  | "abcd".find("c") |  |
| "val: {}%".format(99) |  |  | "abcd".find("B") |  |
| "{} {}".format("X", "Y") |  |  | "Python".find("th") |  |

**Problem 3: sequence indexing**

Assume **msg** is "Hello" and **x** is "num= 13". Some expressions cause an error.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Expression** | **Result** |  | **Expression** | **Result** |  | **Expression** | **Result** |
| "abc"[0] |  |  | msg[4] |  |  | x[len(x) - 1] |  |
| "abc"[2] |  |  | msg[5] |  |  | x[3] |  |
| "abc"[-1] |  |  | msg[len(msg)] |  |  | x[1] + x[2] |  |

**Problem 4: sequence slicing**

Assume **msg** and **x** are as before, and **p** is "= ".

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Expression** | **Result** |  | **Expression** | **Result** |  | **Expression** | **Result** |
| "abcde"[0:2] |  |  | msg[:2] |  |  | msg[:msg.find('=')] |  |
| "abcde"[2:6] |  |  | msg[2:] |  |  | msg[msg.find(' ')+1:] |  |
| "abcde"[2:9] |  |  | msg[-2:] |  |  | msg[msg.find(p)+len(p):] |  |

**Problem 5: for loop over sequence**

What does the following code print?

msg = "301"

A = ""

B = ""

for character in msg:

 print(msg)

 A = A + character + "."

 B = character + B

What is in A afterwards?

What is in B afterwards?

**Problem 6: for loop over range**

What does this code print?

s = "PYTHON"

for i in range(len(s)):

 print(s[:i+1])