How do trees get on a computer?

They just log in.

Thank you, Jack

Source: https://heresajoke.com/computer-jokes/

CMPT 120

Lecture 19 – Practice Exam 5

In-Class Activity

- Our in-class activity #5 -> 1%
  - Write your answer to question ____ on a sheet of paper
  - Write your **lastname**, **firstname** and **student number**
  - At the end of today's class, hand in your sheet of paper in the appropriate pile:
    - **Pile 1** -> if your lastname start with a letter that is between '**A**' and '**L**'
      - **Pile 1** is on your **left-hand side** of the classroom
    - **Pile 2** -> if your lastname start with a letter that is between '**M**' to letter '**Z**'
      - **Pile 2** is on your **right-hand side** of the classroom

2

Theory and Understanding

Try to answer the questions **1st without using your computer**, then confirm your answer using IDLE!

3

Operations and Precedence

1. What does `print(1+2+3+4)` print on the computer monitor screen?

2. What does `print(1-2*3+4)` print on the computer monitor screen?

3. What does `print(25 - 16 * 8 + 6 // 3)` print on the computer monitor screen?

4. What does `print((8 // 3 + 6 * 5) % 11)` print on the computer monitor screen?

Function Header

5. Write the header of a Python function which, given a list of numbers, figures out which of the numbers in the list is the smallest.

6. Write the header of a Python function that prints a circle of a given radius and of a given colour using a given turtle.

Warning for the above two questions: Do not write more than what the question is asking for.

Tuples

Consider the following tuple:

allSorts = ('Paris', 3.1416, [1,2,3], True, 58)

7. What does **allSorts[1:3]** print on the computer monitor screen?

8. What does **allSorts[0]** print on the computer monitor screen?

9. What does **allSorts[::2]** print on the computer monitor screen?

Question 10

Consider the program

Right now, we are using the following test case:

Test Case:

- Test Data: **78**
- Expected result: **C**

to test it. But we need more!

Write all the test cases (there are 5 in total – including the test case above) we would need in order to test this program completely, i.e., to have all the statements in the program executed at least once.

```
grade = 78

if grade < 60 :
  print("F")
elif grade < 70 :
  print("D")
elif grade < 80 :
  print("C")
elif grade < 90 :
  print("B")
else :
  print("A")
```

Coding

Try to solve the problem (i.e., write your Python program) **1st on a piece of paper without using your computer**!

Question 11 – Palindrome program

- **Problem Statement:**
  - Write a **program** that calls your Palindrome function (from Practice Exam #4 Question 9) and prints

    That's a palindrome!

    when the function returns True and

    That's no palindrome!

    when then function returns False.
  - Here are **3 sample runs**:

    ```
    Enter a word to check:  alf33fla
    That's a palindrome!
    ```
    ```
    Enter a word to check:  PEPPER
    That's no palindrome!
    ```
    ```
    Enter a word to check:  pop
    That's a palindrome!
    ```
  - The program terminates when the user enters an empty string.

Question 12 - Strange Calculator

- **Problem Statement:**
  - Write a program that takes a string as an input, such as "24 + 16", "30 – 5", "10 * 4", 36 // 2", computes the equation found in the string and outputs the equation and its result such as

    ```
    24 + 16 = 40
    ```

- **Requirements:**
  - Note that the numbers (**24**, **16** and **40**) in the output above (**24 + 16 = 40**) are no longer strings, but integers.
  - Your program cannot use the function **eval( )**, but it can use the function **split()**.

- **Hint:**
  - You may find **OperationsOnList.py** inspiring. This program is posted under Lecture 18 on our course website.