Computer Science G11 at The Dragon Academy Term 2 Test 1

January 25, 2019

- This test evaluates your understanding of Operating Systems and computer networks [A]as well as the introductory concepts of Python programming [B] that we have seen.
- The final mark of this test will come from 70% Questions and 30% Problems.
- For the Python program: cop&paste the code and send it by email to your teacher. Make sure he checks first whether it runs or not and what answers you get.

1 Questions

- 1. (KticA) Setup your Raspberry Pi (RP) so that it's ready for you to connect to it from your Laptop. Then open a terminal window that gives you access to your RP's command line interface (the prompt).
- 2. (KtiCa) Explain the steps you followed in order to access (not connect) your RP from your laptop.
- 3. (KtiCa) From your answer to question 2, explain the concepts of server/client. Who serves what? What does the client get?
- 4. (KtiCa) Answer again question 2 but this time in an as short as possible way. (Hint: your geek hacker friend asks you "How did you access your RP?")
- 5. (KtiCa) List the IP's you find in your laptop and mark those that are valid IPs. What does each belong to?
- 6. (KtiCA) Repeat question 5 but this time applied to your RP.
- 7. (KticA) From the command line of your PC, copy a text file (any) to your desktop in your RP with the name "text.txt"
- 8. (KticA) Open a remote desktop of your RP in your laptop.
- 9. (KticA) Edit the file "test.txt" in your RP and add the line "Got it!"
- 10. (KticA) From your PC, copy "test.txt" from your RP into your PC desktop with the name "test-gotit.txt".
- 11. (KtiCA) Open the Jupyter notebook in your laptop and create a new notebook called "G10-Term2-Test".

2 Problems

- 1. (kTIcA) Python programming: In the new notebook that you created before, write a program that calculates the sum $\sum_{i=0}^{i=97} (i+3)^2 = 9 + 16 + 25 + 36 + \ldots + 10000$ with the following requirements
 - (a) (kTIcA) For each *i*, make it print the line Adding now amount for a partial total of current value of sum
 - (b) (KtiCA) At the end prints the line The total sum is sum-total
- 2. (kTIcA) The teacher will provide you with another RP.
 - (a) (KtiCa) Shutdown your RP and disconnect it from your laptop
 - (b) (kTIcA) Connect the teacher's RP to your laptop. Find it's IP address and log in to it.