School of Computing
Queen's University

CISC324

Fall 2022

Assignment 1

Deadline: Sept. 26, 2022, 11:59 PM

Full Mark: 10/10

Question 1: True/False (1 Point)

Running a thread doesn't consume extra memory, it just uses part of the memory assigned to its parent process.

a) True
b) False

Question 2: Multiple Choices (1 Point)

THE SECOND Highest speed (access time) among the following list of memories is:

_____

a) Cache Memory
b) Main Memory (RAM)
c) Hard Disc Drive
d) Registers

Question 3: (2 Points)

The MDR (Memory Data Register) and the MAR (Memory Address Register) are two important CPU internal registers. Explain when a CPU uses these two registers?

Question 4: (2 Points)

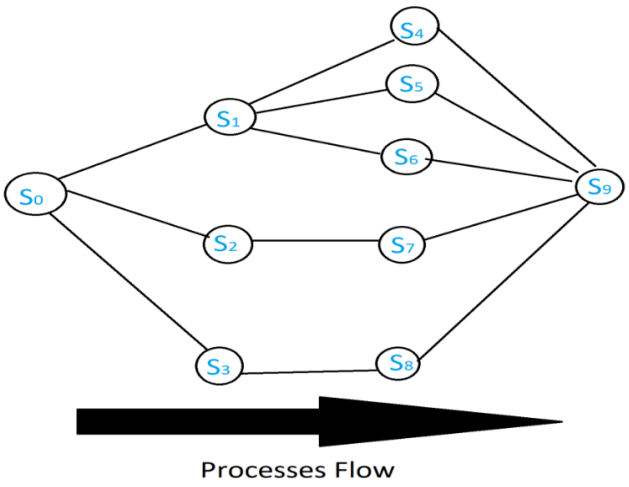
Briefly elaborate CPU's context-switch and the role of PCB in context-switch. Give 2 examples of system-calls in a context-switch scenario.

Question 5: (2 Points)

Explain computer startup process.

Question 6: (2 Points)

Using (Begin-End) for sequential executions and (ParBegin-ParEnd) for parallel executions in the case of concurrent processes, give the pseudo-code for the following PPG (Process Precedence Graph), where S0 is the first instruction statement (Hint: Please review slide 9 of the lecture named "Week-2-process".):



How to Submit:

Write your answers to the given questions on a file and name it according to the following format :
324-1234 –Assn1.pdf

where 1234 stands for your last 4 digits of your students ID. Notice the extension is “pdf” it is preferred to submit a pdf file. If you can not save your file as a pdf then you may save it and submit it as a document.

Then upload “423-1234 –Assn1.pdf into Assignment 1 dropbox on onQ. You may upload several times if you wish , however, onQ only keeps the last uploaded file. Please check your files after uploading.

An “*I uploaded the wrong file*” excuse will result in a mark of zero, no exceptions please!

Also note that the last uploaded file always replaces the previous file, and onQ is set for this assignment to have/show/keep *only* the last uploaded file, and all previous files will be deleted from the system.