Quiz 4: Multitasking

Due date: Midnight of Sunday Mar 13, 2022

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**[Question 1]** What would happen if more than one process is given access to one end of a multiprocessing pipe in Python?

If more than one process is given access to one end of a multiprocessing pipe in Python the data in the pipe will become corrupted and inconsistent.

**[Question 2]** Given the code below, answer the following questions:

**import** **multiprocessing**

**import** **os**

**def** **square**(n):

print(n, os.getpid())

**return** n\*n

**def** **main**():

my\_list = [**1**,**2**,**3**,**4**,**5**]

result = []

p = multiprocessing.Pool()

result = p.map(square, my\_list)

print(result)

**if** \_\_name\_\_ == '\_\_main\_\_':

main()

1. How many processes will be created by the code above?

It creates as many processes as there are cores in the CPU that the program is running on (if the CPU is 8 cores 8 processes will get created) in general but here if the CPU has more than 5 cores still at most 5 processes will be created because there are 5 numbers in the list. But it’s also possible all of this could just be ran on one process becaue the data and operations being performed on them are so small.

1. What is returned by the expression “os.getpid()”?

The process ID of the “square” process will be printed out

1. What will be printed by the code above?

The code above will first print out the numbers 1,2,3,4,5 respectively along with their “square” process id on individual lines so for instance will be (pid is representing the process ID)(then at the end it will print out the squared results)

1 pid

2 pid

3 pid

4 pid

5 pid

[1, 4, 9, 16, 25]

1. Are the created processes running concurrently, in parallel, or concurrently and in parallel?

concurrently and in parallel

**[Submission]**

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