CS-420 Homework 3

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2.) The JVM scheduling handles each thread in phases where one runs for a period of time then the other runs for a period of time which is the resulting output shows very little mismatch responses and the value going high in the positive and negative direction.

3.) Adding the synchronized method will prevent both threads from accessing the functions at the same time and should as result prevent the race hazard and displaying of the mismatch

4.) This would also prevent the race hazard similar to the previous example because the method that changes the value is still preventing multiple threads from accessing it.

5.)

1.) the average turnaround time when making use of FCFS is 4

2.) The average turnaround time when making use of SJF is 2.6

3.)

6.)

1.)

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| --- | --- | --- | --- | --- |
| Pb | Pd | Pc | Pe | Pa |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Pa | Pb | Pc | Pd | Pe |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Pa | Pe | Pc | Pd | Pb |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Pb | Pe | Pc | Pa | Pd |

2.)

a.) pb = 2, pd = 4, pc = 9, pe = 16, pa = 28

b.) pa = 12, pb = 14, pc = 17, pd = 19, pe = 26

c.) pa = 12, pe = 19, pc = 22, pd = 24, pb = 26

d.) pb = 2, pe = 9, pc = 12, pa = 24, pd = 26

3.)

a.) pb = 0 , pd = 2, pc = 4, pe = 7, pa = 14

b.) pa = 0, pb = 12, pc = 14, pd = 17, pe = 19

c.) pa = 0, pe = 12, pc = 19, pd = 22, pb = 24

d.) pb = 0, pe = 2, pc = 9, pa = 12, pd = 24

4.) the SJF method results in the shortest average wait time because it takes care of the quicker processes first

7.)

1.) The group of processes can give up some CPU to another process, by not waiting until it is done to get the others worked on

2.) A process could choose not to allow other process access to the CPU

3.) The advantages of this type of processing is that it is efficient and gives more control in the working and processing of the processes