HW1 Answer

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1

This is due to that the current state on kernel level should be saved and avoids that the process causes unsafe modification of the kernel's return address.

2

(1). This instruction is used when system return control back to user program. User program continues its execution from the last interrupt point. One example is back to former process after context switch. (2). Exception will happen.

3

Processes will be created continuously. The number of processes increases exponentially. When it reaches the resource bottleneck, like memory, the running speed will be slowed down.

4

1+2+4+8+16=31

5

Program1 output:

```
"6"
"6"
```

Program2 output:

```
"6"
```

6

Task	FIFO Complete	FIFO Response	RR Complete	RR Response	SJF Complete	SJF Response
0	85	0	220	0	85	0
1	115	75	80	0	135	95
2	150	100	125	5	170	120

Task	FIFO Complete	FIFO Response	RR Complete	RR Response	SJF Complete	SJF Response
3	170	70	145	20	105	5
4	220	85	215	25	220	85
AVG		66		10		61

7

Task	1)	2)	3)	4)	5)
A	100	140	100	140	104
B	200	121	200	120	194
C	300	122	300	121	196

8

This process run more one scheduling quantum. Consequently, this process is advanced, and others are slowed down. This case could happen, if the system allows prioritized process and this process gets the priority.

9

(a) (b) are T/(T+S) (c) (d) (e) are Q/(Q+S). Specifically, (d) is 1/2, (e) is 0.