

1.2 SOFTWARE & SOFTWARE DEVELOPMENT · 1.2.1

Interrupts & scheduling

Original practice questions · 33 marks · about 45 minutes · spec 1.2.1(c)(d)

Instructions. Answer all questions. The number of marks is shown in brackets []. Quality of written communication is assessed in the extended-response question.

1 Total: 4 marks

This question is about interrupts.

(a) State the name of the signal sent to the CPU to request its attention. [1]

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(b) State **two** sources of an interrupt. [2]

.....

.....

(c) State the name of the routine that handles an interrupt. [1]

.....

2 Total: 6 marks

This question is about how an interrupt is handled.

(a) Describe the steps an operating system takes when it receives an interrupt. [4]

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(b) Explain why interrupts are given priorities. [2]

.....

.....

3

Total: 6 marks

This question is about scheduling.

(a) Explain why processor scheduling is necessary. **[3]**

(b) Describe the round robin scheduling algorithm. **[3]**

4

Total: 5 marks

This question is about different scheduling algorithms.

(a) Explain why a first come first served algorithm may not be efficient. **[2]**

(b) Describe the shortest job first algorithm. **[2]**

(c) State one type of job for which shortest job first is well-suited. **[1]**

5

Total: 4 marks

This question is about more advanced scheduling.

(a) Describe the multi-level feedback queues algorithm. **[3]**

(b) State one objective of a scheduler. **[1]**
