

University of Victoria
Midterm 1
Fall 2025

Student Name	Answer key
V-Number	

Course Name & No.	CSC 360: Operating Systems
Section (CRN)	A03(10816)/A04(10817)
Instructor	Wenjun Yang
Duration	50 Minutes

- This exam has 12 questions across 6 pages, including this cover page. Students must count the number of pages and report any discrepancy immediately.
- This exam is to be answered on the paper provided.
- A basic calculator may be used, although you should not need to use one. This is an otherwise a **closed-book** exam.
- **Ensure all cellphones are switched off.** You must obtain permission from an invigilator to temporarily leave the examination room.
- We strongly recommend you read the entire exam through from beginning to end before beginning to write your answers.
- The total number of marks in this exam is **100**.

Part 1: Single Choice Questions (30 Marks)

For questions 1 to 10, check the box beside the correct answer.
Distribution: 10x3 marks.

Question 1: Question hidden.

- ☒ Answer hidden.
- ☐ Answer hidden.
- ☐ Answer hidden.
- ☐ Answer hidden.
- ☐ Answer hidden.

Question 2: Question hidden.

- ☐ Answer hidden.
- ☐ Answer hidden.
- ☒ Answer hidden.
- ☐ Answer hidden.
- ☐ Answer hidden.

Question 3: Question hidden.

- ☐ Answer hidden.
- ☒ Answer hidden.
- ☐ Answer hidden.
- ☐ Answer hidden.
- ☐ Answer hidden.

Question 4: Question hidden.

☐ Answer hidden.

☐ Answer hidden.

☒ Answer hidden.

☐ Answer hidden.

☐ Answer hidden.

Question 5: Question hidden.

☐ Answer hidden.

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Question 6: Question hidden.

☒ Answer hidden.

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Question 7: Question hidden.

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Question 8: Question hidden.

☐ Answer hidden.

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Question 9: Question hidden.

☐ Answer hidden.

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☒ Answer hidden.

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Question 10: Question hidden.

☐ Answer hidden.

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☐ Answer hidden.

☒ Answer hidden.

☐ Answer hidden.

Part 2: Written Answer Questions (70 Marks)

Question 11 (20+10 Marks)

Consider the syntactically correct C code below, where all system and library calls are always completed without errors:

```
1
2
3
4
5
6
7
8
9
...
17
18
19
20
21
22
23
```

11.a

Question hidden.

Rubric:

- Correct ordering of output: 10pt
- Child output is correct (call to exec): 8pt
- Parent output is correct (correct value): 2pt

```
Hello CSC360!
```

```
PARENT: value = 3
```

11.b

Question hidden.

Rubric:

- (based on your answer in part a) Correct list of possible orderings: 5pt
- Correct lines are output in each: 5pt

```
Hello CSC360!
```

```
PARENT: value = 3
```

```
PARENT: value = 3
```

```
Hello CSC360!
```

Question 12 (40 Marks)

Consider the syntactically correct C code below, where all system and library calls are always completed without errors:

```
1  /* code hidden */
2
3
4
5
6
7
8
9
10
```

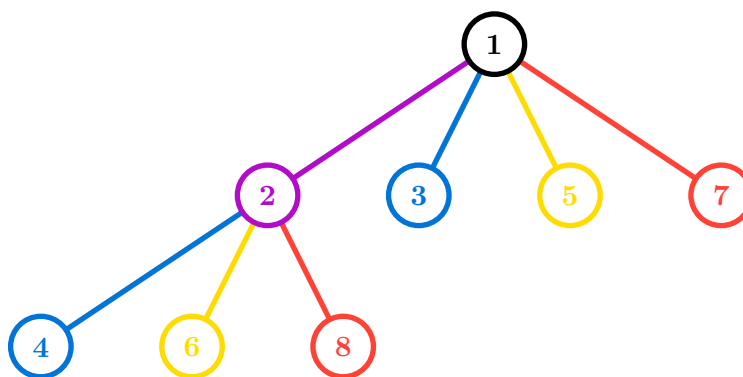
Question hidden.

Partially correct answers with a clear visualization may receive partial marks.

Rubric:

- 1st fork: 5pt
- 2nd fork: 5pt × 2 children
- 3rd fork: 5pt × 2 children
- 4th fork: 5pt × 2 children
- Correct number of processes: 5pt

Note that the numbering of vertices of the same colour may be swapped; this is non-deterministic.



∴ There are 8 processes.