

Grading Guidelines – Midterm 1

CIS 120, Feb 4, 2009

Question 1

1 point for every right answer.

Question 2

Part a: 3 pts for getting the output right.

Part b: 4 pts

Must say `array2.length < array1.length`. Just giving example and not explaining -2 pts.

Part c: 5 pts

- No return statement: -1 pt
- Failing to improve on the initial design (that is, code still causes exception): -5 pts
- Not implementing a consistent logic (finding the length of the new array and then
- Carrying out the corresponding calculation correctly): -4 pts
- Trying to return variables out of scope: -2 pts

Part d: Correct answer: If any of the arrays is null.

If answer given was:

- If array1 is null: -1 pt
- If any of the arrays is empty (or length 0): -3 pts
- If any of the arrays has null elements: -3
- If talk about possible errors, not exceptions: -3 pts
- If any of the arrays is empty: -2 pts (because empty is not the same as null)

Question 3

3 points for correct constructor header -> `public ByTwoCounter(int initial)`

Errors:

- -1 for mixing up constructor name (ex. *CountByTwo* instead of *ByTwoCounter*)
- -2 for using *Counter* as the constructor name
- -1 for writing *ByTwoCounter()* constructor without any parameters

2 points for correctly using super -> super(initial);

Errors:

- -1 for passing incorrect variable into *super()*/not passing a variable into *super()*
- -1 for not using *super()*

Unnecessary code

Errors:

- -2 for incorrectly rewriting *incrementCount()* and *decrementCount()*
- -2 for reinitializing *count* in *ByTwoCounter()*
- -1 for reinitializing *count* but correctly setting *count* to *initial*
- full credit for reinitializing *count* but correctly setting *count* to *initial* and rewriting *getCount()*

Question 4

Errors:

- Initialize Variable in Outer Loop - 1 point
- Conditional in Outer Loop - 2 points
- Increment in Outer Loop - 1 point
- Initialize Variable in Inner Loop - 1 point
- Conditional in Inner Loop - 2 points
- Increment in Inner Loop - 1
- Increment size - 2 points

Question 5

Point allocation: 3+4+3 for the 3 problems

Part a: correct references to the same D object: 2 points
general structure: 1 point

Part b: 2 D type objects, shared by both A objects: 2 points
setting the r field of correct A instance to 6: 1 point
general structure of other objects: 1 point

Part c: 2 different D objects with data value 3: 2 points
correct pointers to the 2 D objects: 1 point