

COMP 182 Quiz 2 — Wednesday March 14, 2007

For each question select the best answer. All questions are worth 1 point. The last four questions will have any answer counted as correct.

Problem 1. Why should you use a “equals” method (rather than ==) when comparing objects?

- a) style points b) faster execution c) to confuse grader
d) equals compares references (not values) e) == compares references (not values)

Problem 2. How should the following line of code be modified?

for (Node nd=head; nd!=null; nd.getNext())

- a) nd==head b) nd=null c) nd=nd.getNext() d) nd.setNext() e) nd = nd.setNext()

Problem 3. How should the following line of code be modified?

nd.setNext() = new Node(5);

- a) nd.setNext(new Node(5)); b) nd.getNext() c) = Node(5); d) nd.getNext(new Node(5)); e) nd = setNext();

Problem 4. How should the following line of code be modified?

if (nd.setNext().getNext() == null)

- a) nd.setNext().setNext(); b) nd.getNext().getNext() c) nd.getNext().setNext();
d) nd.setNext().getNext() = null; e) nd.setNext().getNext() == “null”

Problem 5. If you performed **two** passes of bubble sort on the array

5	2	3	4	6	1
---	---	---	---	---	---

, what would be the result?

- a)

5	2	3	4	6	1
---	---	---	---	---	---

 b)

2	3	5	4	6	1
---	---	---	---	---	---

 c)

2	3	4	1	5	6
---	---	---	---	---	---

d)

1	2	3	4	5	6
---	---	---	---	---	---

 e)

2	3	5	4	6	1
---	---	---	---	---	---

Problem 6. If you performed **two** passes of selection sort on the array

5	2	3	4	6	1
---	---	---	---	---	---

, what would be the result?

- a)

5	2	3	4	6	1
---	---	---	---	---	---

 b)

2	3	5	4	6	1
---	---	---	---	---	---

 c)

2	3	4	1	5	6
---	---	---	---	---	---

d)

1	2	3	4	5	6
---	---	---	---	---	---

 e)

2	3	5	4	6	1
---	---	---	---	---	---

Problem 7. What is returned if you call the method hmm with parameter 5 (ie hmm(5))?

```
public int hmm(int n) {  
    if (n==5) return 2;  
    return 2*hmm(n-1);  
}
```

- a) 5 b) 2 c) 16 d) 32 e) 64

Problem 8. What is the worst case time complexity (big-O) of the following method?

```
public int hmm(int n) {
    for (int i=1; i<n; i*=2)
        for (int j=n; j>1; j/=2)
            System.out.println("HI");
    return 0;
}
```

- a) $O(\lg n)$ b) $O(\lg n * \lg n)$ c) $O(n \lg n)$ d) $O(n * n)$ e) none of these

Problem 9. What is the worst case time complexity of bubble sort?

- a) $O(\lg n)$ b) $O(n)$ c) $O(n \lg n)$ d) $O(n^2)$ e) none of these

Problem 10. What is the worst case time complexity of selection sort?

- a) $O(\lg n)$ b) $O(n)$ c) $O(n \lg n)$ d) $O(n^2)$ e) none of these

Problem 11. What is the worst case time complexity of the following method?

```
public boolean unk(int n) {
    boolean b=true;
    int i=1, j=1;
    while (i<n) {
        j=1;
        while (j<n)
            j += 2;
        i *= 2;
    }
}
```

- a) $O(\lg n)$ b) $O(n)$ c) $O(n \lg n)$ d) $O(n^2)$ e) none of these

Problem 12. Why are the students in 182 doing unusually well this semester?

- a) working extra hard b) unusually smart group c) self-selected (poor students avoiding Noga)
d) smaller class size (more attention per student) e) professor deluding himself (we're no better than usual)

Problem 13. How are students going to mess up and force me to fail many of them?

- a) cheat on project b) don't submit projects c) skip final
d) get complacent and stop working e) actually (nearly) everyone passes

Problem 14. Who did you take 110 or equivalent with?

- a) Noga b) Trybus c) Other CSUN d) more than one e) non-CSUN

Problem 15. How many of the following topics were discussed in your 110 or equivalent: recursion, interfaces, abstract classes, references, mutators, reflection, APIs?

- a) ≤ 2 b) 3 c) 4 d) 5 e) ≥ 6