
SUMMER SEMESTER, 2004

Campus: City

COMPUTER SCIENCE TEST ANSWERS Principles of Programming

ANSWERS

QUESTION 1

- a) 19a
- b) 5 + 1.5
- c) 2
- d) ask ball
- e) 2.0
- f) 2.0
- g) true
- h) [1,10]
- i) 8
- j) \n"
- k) -15
- l) 5
- m) 11.0
- n) 10.15

QUESTION 2

- a) The cast is performed before the multiplication, hence the result is always 1
- b) There are no curly braces to define the two lines of code in the loop body, hence the loop is infinite.
- c) The `parseInt()` method must take a `String` as a parameter, rather than an `int`.

QUESTION 3

a)

- 1. result: true
- 2. result: false
- 3. result: false
- 4.

b)

- 1.
- line 1
- line 2
- line 7
- line 8

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2.
line 4
line 6
line 8

QUESTION 4

```
private static String fillOutString(String s, int numChar){
    String str = "";
    int len = s.length();
    int numToPad = numChar - len;

    if (numToPad <=0)
        return s;

    for (int i=0; i<numToPad; i++)
        str = str + "*";

    return str + s;
}
```

QUESTION 5

```
private static void printRating(int numAs, int numBs, int numCs){
    int numVotes = numAs + numBs + numCs;
    int total = numAs*10 + numBs*6 + numCs*3;
    double ave = total*1.0/numVotes;

    if (ave > 8.5)
        System.out.println("Rating: "+ ave + " *****");
    else if (ave > 6)
        System.out.println("Rating: "+ ave + " ***");
    else
        System.out.println("Rating: "+ ave + " *");
}
```

QUESTION 6

```
public static int lengthSum(String[] words) {
    int sum = 0;

    for (int i = 0; i < words.length; i++)
        sum += words[i].length();

    return sum;
}
```

QUESTION 7

```
private static int getYearWhen(GregorianCalendar bDate, int age){
    int birthYear = bDate.get(Calendar.YEAR);
    int yearToReturn = birthYear + age;

    return yearToReturn;
}
```

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}

QUESTION 8

```
public static int[] doubleArray(int[] nums) {  
    int[] temp = new int[nums.length];  
    for (int i = 0; i < temp.length; i++)  
        temp[i] = nums[i] * 2;  
    return temp;  
}
```

QUESTION 9

```
public class Camera {

    private boolean isOn;
    private int numPhotos;

    public Camera(boolean b, int n) {
        isOn = b;
        numPhotos = n;
    }

    public void takePhotos(int howMany) {
        if (isOn)
            numPhotos += howMany;
    }

    public void setOn(boolean b) {
        isOn = b;
    }

    public String toString() {
        return new String("Camera on: " + isOn + ", photos taken: " + numPhotos);
    }

}
```