



## 1. Matching Terms [ 5 pts ]

Select the **best** word for each of the following definitions:

1. \_\_\_\_\_ Central Processing Unit- a piece of computer hardware that carries out the computations to execute programs
  2. \_\_\_\_\_ A block of code which has a name, and may be called similarly to functions
  3. \_\_\_\_\_ A method whose purpose is to set the value of an instance field
  4. \_\_\_\_\_ Instructions for the Java Virtual Machine
  5. \_\_\_\_\_ A visibility modifier which causes the member it is modifying to be useable only within the declaring class
- 
- A. private
  - B. this
  - C. Lambda
  - D. Instance Field
  - E. Return Value
  - F. Method
  - G. CPU
  - H. Accessor
  - I. static Method
  - J. String
  - K. Mutator
  - L. Byte Code

## Table of ASCII Character Values

This page contains the ASCII Character table, which you may find to be useful reference for question number 2 on the next page.

0 nul	1 soh	2 stx	3 etx	4 eot	5 enq	6 ack	7 bel
8 bs	9 ht	10 nl	11 vt	12 np	13 cr	14 so	15 si
16 dle	17 dc1	18 dc2	19 dc3	20 dc4	21 nak	22 syn	23 etb
24 can	25 em	26 sub	27 esc	28 fs	29 gs	30 rs	31 us
32 sp	33 !	34 "	35 #	36 \$	37 %	38 &	39 '
40 (	41 )	42 *	43 +	44 ,	45 -	46 .	47 /
48 0	49 1	50 2	51 3	52 4	53 5	54 6	55 7
56 8	57 9	58 :	59 ;	60 <	61 =	62 >	63 ?
64 @	65 A	66 B	67 C	68 D	69 E	70 F	71 G
72 H	73 I	74 J	75 K	76 L	77 M	78 N	79 O
80 P	81 Q	82 R	83 S	84 T	85 U	86 V	87 W
88 X	89 Y	90 Z	91 [	92 \	93 ]	94 ^	95 _
96 `	97 a	98 b	99 c	100 d	101 e	102 f	103 g
104 h	105 i	106 j	107 k	108 l	109 m	110 n	111 o
112 p	113 q	114 r	115 s	116 t	117 u	118 v	119 w
120 x	121 y	122 z	123 {	124	125 }	126 ~	127 del



**3. Printing [ 15 pts ]**

Write the class **TuesPrinter** so that it prints the String "CS1322" to the screen when the class is run.

#### 4. Java Commands [ 6 points ]

- 2 (a) What command do you type at the command prompt to compile all of the java files in the current directory?
- 2 (b) What command do you type at the command prompt to run the class you wrote in problem 3?
- 2 (c) What command do you type at the command prompt to generate html documentation files from the comments in your program for all java files in the current directory?

**5. Accessors and Mutators [ 19 pts ]**

Write the class **Bottle**, which should have one instance field, **size** of type **int**. This field should be declared so that it is visible only within the **Bottle** class. You should also write an accessor method and a mutator method for this field. The accessor method and mutator method should be visible to any class.

**6. Decisions [ 15 pts ]**

Write the method `public String checkLessThan(int a, int b)` which takes two ints, and returns the String "LessThan" if `a` is less than `b`, and the String "Not LessThan" otherwise.

```
public String checkLessThan(int a, int b) {
```

```
}
```

**7. Loops (Iteration) [ 15 pts ]**

Write the method `public int sum(int x)` which returns the sum of the integers between 1 and `x` (inclusive). For example, `sum(3)` would return 6. You MUST use a loop to solve this problem. If you attempt to solve the problem via any other means than iteration, you will receive no credit for this problem (i.e. if you use recursion, if you use a closed form solution, etc). You may assume `x > 0`

```
public int sum(int x) {
```

```
}
```

**8. Tracing [ 15 pts ]**

What is the output when the following code segment is executed?

```
int x=3;
int y=7;
System.out.println("starting");
if(x>=y){
    System.out.println("exactly");
}
else{
    System.out.println("are you sure?");
}
System.out.println((true && false) || true);
System.out.println((false || true) && false);
while(x<y){
    System.out.println(x+" "+y);
    x+=2;
    y++;
}
System.out.println("x= "+x);
System.out.println("y= "+y);
```