SE1011: Half Exam 2   Name:

This is a closed-book, closed-computer, etc. exam. You may use one 8.5"x11" sheet of notes, which you will turn in with your exam. Review all questions before you get started. Use the page at the end of the exam for extra work. Write your name on the front of each page. The exam is printed double-sided. Show all work.

1. (5 pts.) Consider the following program:

```
public static void main(String[] args) {
    Scanner in = new Scanner(System.in);
    System.out.println("Please␣enter␣a␣word.");
    String word = in.next();
    System.out.println("Letters:␣" + word.charAt(1) +
                            "␣and␣" + word.charAt(3));
}
```

Write what will be displayed if Exam is entered by the user. (Use ␣ in the place of a space.)

2. (20 pts.) [Console input/output (IO)] Complete the following program so that it does the following: ***Ask*** the user to enter a number. ***Accept*** an integer from the user. ***Print*** (to the console) "going␣up" the number of times the user specifies. Use `System.out.println(…);` to print to the console. For example, if the user enters 2, you should print

```
going up
going up
```

```
import java.util.Scanner;
public class Exam {
    public static void main(String[] ignored) {
        Scanner in = new Scanner(System.in);
```

```
    }
}
```

3. (15 pts.) **Complete** the following program to display the message "Good week" if the number of pizzas the user consumed are between 0.5 and 2.5. If the number of pizzas is outside this range, display the message "Bad week". Consider the cases where the number of pizzas eaten is exactly 0.5 or 2.5 as a "Good week". Use JOptionPane.showMessageDialog(null, …) for the output instead of printing to the console. Use Double.parseDouble(…) to convert from a String to a double.

```java
import javax.swing.JOptionPane;

class Exam {
    public static void main(String[] ignored) {
        String numPizzasString = JOptionPane.showInputDialog(null,
                                "How many pizzas were eaten this week?");



    }
}
```

4. (10 points) **Complete** what will be written by the following program. You may add other columns to your trace on the left. It is OK if you include extra blank lines if that improves your thinking.

```java
System.out.println("x  y")
int x = 1;
while(x > 0) {
    int y = 0;
    while(y < x) {
        System.out.println(x + "   " + y);
        y-=1;
    }
    x-=1;
}
```

Output:
x   y