

1. Find the result of the operation in a through e. If it produces an error, write ERROR.

- a) $13 \% 5 != 3.0$ _____
- b) $(!(65 > 4 * 15) \parallel \text{false})$ _____
- c) $(8 * 4 \% 16 != 5) \&\& (44 / 11 + 5 >= 31)$ _____
- d) $(\text{int}) 7.4 < 7.4 \parallel !(5.6 / 7.8 > 1 \&\& \text{true})$ _____
- e) $!(((5 + - 2 * 4 + 6.5) + 24 / 6 \% 2) \parallel \text{false})$ _____

2. Use the code fragment below to answer the following questions.

```
/* 1 */ Weekend fun = new Weekend();  
/* 2 */ if (fun.social() == 0)  
/*3*/     System.out.println("Eat Out");  
/* 4 */ else if (fun.social() == 1)  
/*5*/     System.out.println("Party");  
/* 6 */ else if (fun.social() == 2)  
/*7*/     System.out.println("Movies");  
/* 8 */ else  
/* 9*/     System.out.println("Stay home");  
/* 10*/ System.out.printf("Friends: %s\n", fun.buds());
```

- a) What class is the variable "fun"? _____
- b) What data type does the method "social" return? _____
- c) What is printed if social's value is 2? _____
- d) What is printed if social's value is -1? _____
- e) What data type does the method "buds" return? _____
- f) On which line is a constructor called? _____

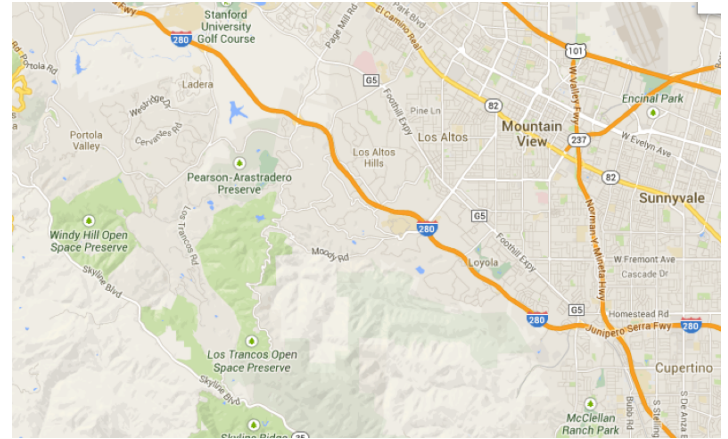
3. Write the complete output for the following code in the box at right. Tabs have been removed – be careful!
Clearly show where the cursor is after the code is finished running.

```
char x = 'a';  
if (x == 'a')  
{  
System.out.println("crazy");  
x = (char)((int)x + 5);  
}  
System.out.print("lazy");  
x = 'A';  
if ( (int)x >= (int)'a' )  
System.out.println("hazy");  
else  
System.out.print ("amazing");  
System.out.println("grazing");
```

Terminal window

4. Write a program. You will be bicycling 30 miles from Cupertino to Portola Valley and back again. The table below lists in what city you will be for every mile you travel.

If you travel _____ miles	You are in the city of _____
1 or 30	Cupertino
2 to 6 or 24 to 29	Los Altos
7 to 11 or 19 to 23	Palo Alto
12 to 13	Menlo Park
14 to 18	Portola Valley



The program will prompt the user for the number of miles travelled and output the city in which they will be. Assume only integers will be input by the user. If the user inputs a number out of range, the program will prompt the user again.

ExecuteRide() is a program that has:

- a constructor
- main() creates an instance of the class and uses it to call runRide().
- runRide() This executes input(), all of Ride's methods, and output().
- input() This method accepts input of number of miles a user plans to ride (assume integer 30 or less).
- output() This method prints where the user will end up, upon completing this distance. The method uses the String that was returned from whereAmI() as a parameter.

Ride() is a program that does not execute on its own (ExecuteRide() gets it to run). It has:

- A constructor that receives the inputted distance and saves it as a field variable in Ride().
- whereAmI() This method determines what city you are at when you finish your ride, using the data in the table above and an **if-else block**. The method returns the name of this city to where it was called from in ExecuteRide(). whereAmI() has no parameters. There is no printing in whereAmI().

Here is are two example runs with user input in **bold**:

```
Please enter how many miles you will travel: 40
Reread the prompt
```

```
Please enter how many miles you will travel: 15
You will be in Portola Valley after 15 miles.
```

```
import java.util.Scanner;
```

```
public class _____
{
    private int miles;

    public _____ // fill in the blank// constructor - fill in
    {
        _____
    }
    public static void main (String [] args) // Create an instance and use it to call runRide()
    {

    }
}
```

```

public _____ // method in main(), call input(), all of Ride's methods, and output().
{
    // (Several lines)

}
public _____ input(_____) //fill in one or both blanks
{
    Scanner kb = new Scanner(System.in);
    System.out.println("Please enter how many miles you will travel.");
    _____ = _____; // fill in both blanks
}

public _____ output(_____) // fill in one or both blanks
{
    if (_____)
        System.out.println("You'll be in " + _____ + " after " + _____ + " miles."); // fill both
    else
        System.out.println("Reread the prompt.");
}
}
public class _____ // fill blank
{
    _____; //field variable – fill blank

    _____ ( _____) // constructor – fill one or both blanks
    {
        _____; // fill blank
    }

    public _____ whereAmI(_____) // fill one or both blanks
    {
        // fill this method with multiple lines

    }
}
}

```