CS 249: Assignment 3

Loops and Methods

Theory Questions (16%)

1. (2%) Given the following code, how many times is the phrase "This is the song that doesn't end..." printed?

```
int i = 10;
for(i = 1; i < 5; i++) {
        System.out.println("This is the song that doesn't end...");
}
```

2. (2%) Given the code in the previous question, what is the value of i after exiting the loop?

3. (2%) Given the following code, how many times is the phrase "I AM GROOT" printed?

```
int cnt = 0;
while(cnt < 10) {
    cnt++;

    if(cnt == 7)
        break;

    if(cnt == 3)
        continue;

    System.out.println("I AM GROOT");
}
```

4. (2%) Given the following code, what are the **formal parameters** of the method **doSorcery()**?

```
public static void main(String [] args) {
        int value = doSorcery(1,2);
}

public static int doSorcery(int a, int b) {
        return (a+b);
}
```

5. (2%) Given the code in the previous question, what are the **actual parameters/arguments** of the method **doSorcery()**?

6. (2%) Given the code in the previous question, what is the **signature** of the method **doSorcery()**?

7. (2%) Could I **overload** the method by writing the following? If not, why?

```
public static double doSorcery(int a, int b) {
        return (a+b);
}
```

8. (2%) Briefly, what is a **stub** (when referring to methods)?

Programming Assignments (84%)

Where appropriate, use the Pseudocode Programming Process to implement!

For this assignment, use a SEPARATE Java file for each requirement (not sub-requirements)! Name each Java file "Assign3_N.java", where N is the requirement number.

You can use the checkboxes to track whether you've met each requirement.

#	*Questions*	
1	**Implement 5.15 (printing ASCII characters).**	
2	**Implement 5.49, but also print out the "price" of the phrase (like on Wheel of Fortune). A vowel will be $250 each, all other characters cost nothing.**	
	Consider using methods to make your coding job easier.	
	Also consider using the Character.isAlphabetic() method.	
	Example output: Enter a string: Programming is fun The number of vowels is 5 The number of consonants is 11 The price is $1250	
3	**Implement 6.9.**	
	Use tabs to separate columns.	
	Use the | character as the divider between the first two columns and the last two columns (so between the second and third columns).	
	For the first and third columns, use a width of 3 with a precision of 1. For the second and fourth columns, use a width of 3 with a precision of 3.	
	Don't worry about putting a horizontal line between the header of the table and the rest of the rows, but again do put a vertical line between the first two and last two columns (using |).	
4	**Implement 6.21 (phone keypads).**	

Submission

You will submit the following items as a *.tar or *.zip file:

- A plaintext, Word doc, or PDF with your answers to any theory questions
- Your .java file(s)

Submit this tar/zip file on Blackboard under the appropriate assignment.
Do NOT submit:

- Your .class file(s)
- Your project files

Grading

Below is a list of SOME of the grading penalties:

- Sloppy or poor coding style
- Bad coding design principles
- Code that does not compile
- Code that crashes, does not run, or takes a VERY long time to complete
- Using code from ANY source other than the course materials
- Collaboration on code of ANY kind; this is an INDIVIDUAL PROJECT
- Sharing code with other people in this class or using code from this or any other related class
- Output that is incorrect
- Algorithms/implementations that are incorrect
- Submitting improper files
- Failing to submit ALL required files