

Quiz #5 Answers

1. Both the for loop and the while loop in Java are pre-check loops. What does that mean?

A pre-check or pre-test loop is one that checks the conditional expression before it executes. The body of a pre-check loop is not guaranteed to execute. This is in contrast to post-check loops where the body will always happen before the first time the condition is checked.

2. Trace the following code and tell me what it prints. Assume that the file “numbers.txt” contains the text “9 36 81 this is a quiz”. Show your work for partial credit.

```
public class QuizCode {
    public static void main(String[] args) {
        try {
            Scanner sc=new Scanner(new File("numbers.txt"));
            while(sc.hasNextInt()) {
                System.out.println(func(sc.nextInt()));
            }
            while(sc.hasNext()) {
                String w=sc.next();
                System.out.println(w.charAt(w.length()-1));
            }
            sc.close();
        } catch(FileNotFoundException e) {
            e.printStackTrace();
        }
    }
    public static int func(int a) {
        int ret=0;
        while(ret*ret<a) {
            ret++;
        }
        return ret;
    }
}
```

Output:

```
3
6
9
s
s
a
z
```

Extra Credit: On the back write code that will calculate the sum of the squares of all integers between 1 and 100 inclusive. ($1^2+2^2+3^2+\dots+99^2+100^2$)

```
int sum=0;
for(int i=1; i<=100; i++) {
    sum+=i*i;
}
```