1. Would you use a **for** loop or a **while** loop if you were creating an application to print the odd numbers from 1 to 1000? Explain why.

I would use a for loop, as I find it more structured for most counting repetition tasks. In this case, I would do:

**for (int i = -1; (i += 2) < 1000; System.out.println(i));**

I find code that is more concise without overly obfuscated tactics to be more readable. I also generally prefer one line solutions to these e kinds of problems. I see code like this a lot in C++, where one might use the following:

**for (std::string line; std::getline(file, line);) {  
 //process line**

**}**

2. Create a variable trace form for the following code segment, tracing the values from myNum and mySum as well as any output.

int myNum = 11;

int mySum = 0;

while (myNum >= 0)

{

myNum--;

mySum += myNum \* 5;

}

System.out.println ("myNum: " + myNum);

System.out.println ("mySum: " + mySum);

|  |  |
| --- | --- |
| **Trace Table** | **Output** |

myNum: -1

mySum: 270

|  |  |
| --- | --- |
| myNum | mySum |
| 11 | 0 |
| 10 | 50 |
| 9 | 95 |
| 8 | 135 |
| 7 | 170 |
| 6 | 200 |
| 5 | 225 |
| 4 | 245 |
| 3 | 260 |
| 2 | 270 |
| 1 | 275 |
| 0 | 275 |
| -1 | 270 |