

## Chapter 5 Worksheet 2 while Loop

page 1 of 2

Pts: 15

Name (1 pt) \_\_\_\_\_

class hour \_\_\_\_\_

I.1) Write the output of the following program segment (3 pts):

```
int number = 1;
while (number < 11)
{
    number++;
    System.out.print(number + " ");
}
System.out.print("Bye");
```

Output: \_\_\_\_\_

2) By merely rearranging the order of the statements (not changing how any of them are written), make the loop above output the numbers from 1 to 10 inclusive. Indicate how to do this by using **arrows** in the above problem. (1 pt)

II. When the following code is executed, how many iterations of the loop will be performed? Show the memory simulation. (1 pt)

```
int count = 0;
int number = 2;
boolean done = false;
while (!done)
{
    number = number * 2;
    if (number > 64)
        done = true;
    count++;           // This is the iteration counter!
}
```

(1 pt) Answer: \_\_\_\_\_

<u>count</u>	<u>number</u>	<u>done</u>
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III. Given the input data: 20 30 40 -9  
What is the output of the following code fragment?  
Show the memory simulation. (1 pt)

(1 pt) Answer: \_\_\_\_\_

```
sum = 0;
String input = JOptionPane.showInputDialog("Type a number");
number = Integer.parseInt(input);
while (number != -9)
{
    input = JOptionPane.showInputDialog("Type a number");
    number = Integer.parseInt(input);
    sum = sum + number;
}
System.out.println(sum);
```

<u>sum</u>	<u>number</u>
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IV. Given the program below answer the questions below using the data: **5 6 -3 7 -4 0 5 8 9**

```
public static void main(String[ ] args)
{
    final int limit = 8;
    int count = 0, sum = 0, number;
    boolean flag = false;
    while (count <= limit && ! flag)
    {
        String input = JOptionPane.showInputDialog("Type a number");
        number = Integer.parseInt(input);
        if (number > 0)
            sum = sum + number;
        else
            if (number == 0)
                flag = true;
            count++;
    }
}
```

1) Show the complete memory simulation below. (3 pts)

limit                      number                      sum                      count                      flag

- 2) At the end of execution
- a) What is the content of number? (1 pt)      2a) number = \_\_\_\_\_
  - b) What is the content of sum? (1 pt)      2b) sum = \_\_\_\_\_
  - c) What is the content of count? (1 pt)      2c) count = \_\_\_\_\_