

# AP Chapter 6 Worksheet 1 while Loop

Name \_\_\_\_\_

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

I. In the following program segments do:

- a) Show the memory simulation for the variable `count`
- b) Write the last value of `count` upon completion of the **while** loop
- c) Write the output

```
1) int count = 0;
   while (count < 3)
   {
       count++;
       System.out.print(count + " ");
   }
```

1a) Memory Simulation:

count

0

1

2

3

b) Last value of count: 3

c) Output: 1 2 3

```
2) int count = 0;
   while (count < 3)
   {
       System.out.print(count + " ");
       count++;
   }
```

2a) Memory Simulation:

count

0

1

2

3

b) Last value of count: 3

c) Output: 0 1 2

```
3) int count = 1;
   while (count < 3)
   {
       count++;
       System.out.print(count + " ");
   }
```

3a) Memory Simulation:

count

1

2

3

b) Last value of count: 3

c) Output: 2 3

```
4) int count = 1;
   while (count < 3)
   {
       System.out.print(count + " ");
       count++;
   }
```

4a) Memory Simulation:

count

1

2

3

b) Last value of count: 3

c) Output: 1 2

II. Answer the following showing the memory simulation:

1) What is the output of the following code fragment?

```
int limit, count;
limit = 8;
System.out.print("GR");
for (count = 10; count <= limit; count++)
    System.out.print("E");
System.out.print("NLEE");
```

1) **GRNLEE**

---

<u>MEMORY:</u>	
<u>count</u>	<u>limit</u>
10	8

2) What is the output of the following code fragment?

```
int limit, count;
limit = 10;
System.out.print("GR");
for (count = 8; count <= limit; count++)
    System.out.print("E");
System.out.print("NLEE");
```

2) **GREENLEE**

---

<u>MEMORY:</u>	
<u>count</u>	<u>limit</u>
8	10
9	
10	
11	

3) What is the output of the following code fragment?

```
int total = 0;
int count = 2;
for ( ; count <= 5; count++)
    total = total + 2 * count;
System.out.print(total);
```

3) **28**

---

<u>MEMORY:</u>	
<u>count</u>	<u>total</u>
2	0
3	4
4	10
5	18
6	28

4) What is the output of the following code fragment?

```
for (count = 1; count > 4; count++)
    System.out.print(count + " ");
System.out.println("End");
```

4) **End**

---

<u>MEMORY:</u>	
<u>count</u>	
1	

5) Write the output of the following code fragment.

```
System.out.print("Hello ");
for (count = 1; count <= 3; count++); // Note the semicolon!
    System.out.print("Hi ");
System.out.print("Bye");
```

---

<u>MEMORY:</u>	
<u>count</u>	
1	
2	
3	
4	

5) **Hello Hi Bye**

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