1. What gets printed? Please show output as it will appear or indicate “NO OUTPUT”. If it’s an infinite loop, be sure to show at least 3 lines of output followed by “INFINITE LOOP.”

```java
int a = 4;
while (a>0)
{
    System.out.println(a);
    a--;
}
```

```java
int a = 4;
while (a>0)
{
    a = a + 2;
    System.out.println(a);
}
```

```java
int a = 0;
while (a <= 6)
{
    if ((a%2)==0)
        System.out.println(a);
    a++;
}
```

```java
int a = 1;
while (a < 4)
{
    System.out.println(3*a);
    a++;
}
```
2. Let's look at the problem of repeatedly obtaining input and performing a calculation, for example, computing the area of a circle given its radius, using the following algorithm:

<table>
<thead>
<tr>
<th>Variables:</th>
</tr>
</thead>
<tbody>
<tr>
<td>radius, area</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Algorithm:</th>
</tr>
</thead>
<tbody>
<tr>
<td>input radius</td>
</tr>
<tr>
<td>area = radius<em>radius</em> PI</td>
</tr>
<tr>
<td>print area</td>
</tr>
</tbody>
</table>

Rewrite this algorithm, modifying it so that it uses a while structure to repeat the processing of each input in two different ways.

a) Compute the areas of 5 circles (exact count).

Variables:

Algorithm:

b) Keep computing circle areas until user inputs -1 for the radius (sentinel value)

Variables:

Algorithm:
1. What gets printed? Please show output as it will appear or indicate "NO OUTPUT". If it's an infinite loop, be sure to show at least 3 lines of output followed by "INFINITE LOOP.”

```
int a = 4;
while (a>0)
{
    System.out.println(a);
    a = a - 2;
}
```

```
int a = 0;
while (a<0)
{
    a--;
    System.out.println(a);
}
```

```
int a = 1;
while (a < 7)
{
    if ((a%2)==0)
        System.out.println(a);
    a++;
}
```

```
int a = 1;
while (a <= 20)
{
    System.out.println(a);
    a += 5;
}
```
2. Let’s look at the problem of repeatedly obtaining input and performing a
calculation, for example, computing the circumference of a circle given its
radius, using the following algorithm:

| Variables: |
| radius, circ |

| Algorithm: |
| input radius |
| circ = 2 * radius* PI |
| print circ |

Rewrite this algorithm, modifying it so that it uses a while structure to repeat the processing
of each input in two different ways.

a) Keep computing circumferences and ask each time whether to keep going.

Variables:

Algorithm:

b) Compute the circumferences of 10 circles (exact count).

Variables:

Algorithm: