1. Show what gets printed and rewrite using a while loop:

```java
int a = 0;
do {
    System.out.println(a);
    a++;
} while (a < 5);
```

Using while loop:

Output:

```java
for (int a = 10; a > 0; a--)
{
    System.out.println(2*a);
}
```

Using while loop:

Output:

2. Write a code fragment that uses a for-loop to print every other character stored in a String object called word starting with the first character.
3. Consider the following program. Insert some code in the appropriate places that uses do loops to verify that the user enters positive integers for quantity and unit price.

```java
import java.util.Scanner;

public class Purchase {
    // Calculates the final price of a purchased item using values entered by the user.
    public static void main (String[] args) {
        final double TAX_RATE = 0.06; // 6% sales tax
        int quantity;
        double subtotal, tax, totalCost, unitPrice;
        Scanner scan = new Scanner (System.in);

        System.out.print("Enter the quantity: ");
        quantity = scan.nextInt();

        System.out.print("Enter the unit price: ");
        unitPrice = scan.nextDouble();

        subtotal = quantity * unitPrice;
        tax = subtotal * TAX_RATE;
        totalCost = subtotal + tax;
        System.out.println("Total: "+ totalCost);
    }
}
```
Quiz 8

1. Show what gets printed and rewrite using a while loop:

```java
int a = 5;
do {
   System.out.println(a);
   a = a - 2;
} while (a >= 0);
```

Output:

Using while loop:

```java
for (int a = 1; a <= 5; a++)
{
   if (a%2==0)
      System.out.println(a);
}
```

Output:

Using while loop:

2. Write a code fragment that uses a for-loop to print characters stored in a String object called str backward.

```java
for (int a = str.length(); a >= 0; a--)
{
   System.out.println(str.charAt(a));
}
```
3. Consider the following program. Insert some code in the appropriate places that uses do loops to verify that the user enters positive integers for quantity and unit price.

```java
import java.util.Scanner;

public class Purchase{
    public static void main (String[] args){
        final double TAX_RATE = 0.06; // 6% sales tax
        int quantity;
        double subtotal, tax, totalCost, unitPrice;
        Scanner scan = new Scanner(System.in);

        System.out.print ("Enter the quantity: ");
        quantity = scan.nextInt();

        System.out.print ("Enter the unit price: ");
        unitPrice = scan.nextDouble();

        subtotal = quantity * unitPrice;
        tax = subtotal * TAX_RATE;
        totalCost = subtotal + tax;
        System.out.println ("Total: " + totalCost);
    }
}
```
Quiz 8

1. Show what gets printed and rewrite using a while loop:

```java
int a = 0;
do {
    System.out.println(a);
    a++;
} while (a < 5);
```

```java
for (int a = 10; a > 0; a--)
{
    System.out.println(2*a);
}
```

2. Write a code fragment that uses a for-loop to print the number of times the character ‘a’ appears in a String object called name.
3. Consider the following program. Insert some code in the appropriate places that uses do loops to verify that the user enters positive integers for quantity and unit price.

```java
import java.util.Scanner;

public class Purchase {
    public static void main (String[] args) {
        final double TAX_RATE = 0.06; // 6% sales tax

        int quantity;
        double subtotal, tax, totalCost, unitPrice;
        Scanner scan = new Scanner (System.in);

        System.out.print ("Enter the quantity: ");
        quantity = scan.nextInt();

        System.out.print ("Enter the unit price: ");
        unitPrice = scan.nextDouble();

        subtotal = quantity * unitPrice;
        tax = subtotal * TAX_RATE;
        totalCost = subtotal + tax;
        System.out.println ("Total: " + totalCost);
    }
}
```