Snippet 1:

```
public class NestedLoopOutput {
    public static void main(String[] args) {
        for (int i = 1; i <= 3; i++) {
            for (int j = 1; j <= 2; j++) {
                System.out.print(i + " " + j + " ");
            }
            System.out.println();
```

```
        }
    }
}
// Guess the output of this nested loop.
```

Assignment 03

Section 02: Guess the output

Snippet 01

```
Public class Nested loop output {
    Public Static Void main(String[] aegs){
        for(int i=1; i<=3; i++){
            for(int j=1; ; j<=2; j++){
                System.out.print(i +"" +j+"");
            }
            System.out.println();
        }
    }
}
```

i = 01

j = 1

outer loop

i=1

i=2

i=3

inner loop

j =1
j =2

j =1
j =2

j =1
j =2

Guessed output

1 1 1 2

2 1 2 2

3 1 3 2

Snippet 02

Snippet 2:

```
public class DecrementingLoop {
    public static void main(String[] args) {
        int total = 0;
        for (int i = 5; i > 0; i--) {
            total += i;
            if (i == 3) continue;
            total -= 1;
        }
        System.out.println(total);
    }
}
// Guess the output of this loop.
```

j = 1
j = 2

Snippet 02

Dry run:-

i = 5 ; total = 0 + 5 = 5; i == 3 is false; total = 5 - 1 = 4

i = 4 ; total = 4 + 4 = 8; i == 3 false ; total = 8 - 1 = 7

i = 3; t = 7 + 3 = 10 ; i == 3 true ; skip

i = 2 ; t = 10 + 2 = 12 ; — false ; t = 11

i = 1 ; t = 11 + 1 = 12 ; — false ; t = 11

Gussed output

11

Snippet 3:

```
public class WhileLoopBreak {
    public static void main(String[] args) {
        int count = 0;
        while (count < 5) {
            System.out.print(count + " ");
            count++;
            if (count == 3) break;
        }
        System.out.println(count);
    }
}
// Guess the output of this while loop.
```

Snippet 03

Dry Run :-

Count = 0 ; Prints "0" ; Count = 1 ; C == 3 ; is false

Count = 1 : Prints "1" ; Count = 2 ; C == 3 false

Count = 3 : prints "2" ; Count = 3 ; C == 3 true ; break

guess output :-

0 1 2 3

Snippet 4:

```
public class DoWhileLoop {
    public static void main(String[] args) {
        int i = 1;
        do {
            System.out.print(i + " ");
            i++;
        } while (i < 5);
        System.out.println(i);
    }
}
// Guess the output of this do-while loop.
```

Snippet 04

Dry run:-

i = 1 : Prints "1" ; i = 2

i = 2 : Prints "2" ; i = 3

i = 3 : Prints "3" ; i = 4

i = 4 : Prints "4" ; i = 5

i < 5 (5 < 5) is false, loop stop

Print i(5)

Output ;-

1 2 3 4 5

Snippet 5:

```
public class ConditionalLoopOutput {
    public static void main(String[] args) {
        int num = 1;
        for (int i = 1; i <= 4; i++) {
            if (i % 2 == 0) {
                num += i;
            } else {
                num -= i;
            }
        }
        System.out.println(num);
    }
}
// Guess the output of this loop.
```

Snippet 05

DEY Run

i = 1 : 1 % 2 == 0 false ; num = 1 - 1 = 0

i = 2 : 2 % 2 == 0 true ; num = 0 + 2 = 2

i = 3 : 3 % 2 == 0 false ; num = 2 - 3 = -1

i = 4 : 4 % 2 == 0 true ; num = -1 + 4 = 3

output :-

3

Snippet 6:

```
public class IncrementDecrement {
    public static void main(String[] args) {
        int x = 5;
        int y = ++x - x-- + --x + x++;
        System.out.println(y);
    }
}
// Guess the output of this code snippet.
```

Snippet 06 :-

```
Dey Enn
    x=5
    y = ++x - x-- + --x + x++;
```

++x : x become 6, Eetuen 6.

x-- : Eetuen 6, then x become 5

--xx : x become 4 then x Eetuen 4

x++ : Eetuen 4 then x become 5

y = 6 - 6 + 4 + 4 = 8

output :-

8

Snippet 7:

```
public class NestedIncrement {
    public static void main(String[] args) {
        int a = 10;
        int b = 5;
        int result = ++a * b-- - --a + b++;
        System.out.println(result);
    }
}
// Guess the output of this code snippet.
```

Snippet 07 :-

Dry Run :-

a = 10 , b = 5

Result = ++a * b-- - --a + b++

++a : a becomes 11 , returns 11

b-- : return 5 , then b become 4

--a : a become 10 , return 10

b++ : return 4 , then b became 5

Result: 11 x 5 - 10 + 4 = 55 - 10 + 4 = 49

output :-

49

Snippet 08:-

Dry Run

- Count = 0
  - i = 0
    - i++ : return 0, then i become 1
    - ++i : i become 2 : return 2
    - Count += 0 - 2 = -2 : Count = -2
  - i = 2
    - i++ : return 2 then i become 3
    - ++i : i become 4, return 4
    - Count += 2 - 4 = -2 : Count = -4

output :-

-4

=

Snippet 8:

```
public class LoopIncrement {
   public static void main(String[] args) {
      int count = 0;
      for (int i = 0; i < 4; i++) {
         count += i++ - ++i;
      }
      System.out.println(count);
   }

   }
   // Guess the output of this code snippet.
```