**Loops**

1. Add one line of code so this loop can eventually terminate.

int x = 20;

while(x > 0)

{

System.out.println("x is greater than 0");

// add code here

}

Ans: x--

1. What output is produced by the following code?

int count = 0;

while(count < 5)

{

System.out.println(count);

count++;

}

System.out.println("count after loop = " + count);

Ans:

0

1

2

3

4

count after loop = 5

1. Can the body of a while loop execute zero times? Can the body of a do-while loop execute zero times?

Ans: while: yes, if boolean is false, do-while: no at least one time regardless of boolean.

1. What output is produced by the following code?

int count = 0;

do

{

System.out.println(count);

count++;

}

while(count < 0);

System.out.println("count after loop = " + count);

Ans:

0

count after loop = 1

1. What output is produced by the following code?

int count = 0;

while(count < 5)

{

System.out.println(count);

count--;

}

System.out.println("count after loop = " + count);

Ans: infinite loop

1. What will the following program segment display?

for(int count = 0; count < 6; count++)

System.out.println(count + count);

Ans:

0

2

4

6

8

10

1. What will the following program segment display?

for(int value = -5; value < 5; value ++)

System.out.println(value);

Ans:

-5

-4

-3

-2

-1

0

1

2

3

4

1. What will the following program segment display?

int x;

for(x = 5; x <= 14; x+=3)

System.out.println(x);

System.out.println(x);

Ans:

5

8

11

14

17

1. What will the following program segment display?

int a, x = 0, y = 0;

while(x < 10)

{

a = x \* 2;

y += a;

x++;

}

System.out.println("The sum is " + y);

Ans: The sum is 90

1. What will the following program segment display?

int x, y;

for(x = 1, y = 1; x <= 5; x++, y++)

{

System.out.println(x + "plus " + y + " equals " + (x + y));

}

Ans:

1 plus 1 equals 2

2 plus 2 equals 4

3 plus 3 equals 6

4 plus 4 equals 8

5 plus 5 equals 10

1. What output is produced by the following code?

for(int n = 1; n <= 4; n++)

System.out.println(n);

Ans:

1

2

3

4

1. What output is produced by the following code?

int n;

for(n = 1; n > 4; n++)

System.out.println(n);

Ans: Nothing, boolean is always false

1. What output is produced by the following code?

for(int n = 4; n > 0; n--)

System.out.println(n);

Ans:

4

3

2

1

1. What output is produced by the following code?

for(int n = 4; n > 0; n--);

System.out.println(n);

Ans: error

1. What output is produced by the following code?

for(double test = 0; test < 3; test = test + 0.5)

System.out.println(test);

Ans:

0.0

0.5

1.0

1.5

2.0

2.5

1. Write a for statement that displays the even numbers 2, 4, 6, 8, and 10. Each number should appear on a separate line. Declare all the variables you use.

Ans:

for (int n = 0; n <= 10; n++)

if (n % 2 == 0)

System.out.println(n);

1. What output is produced by the following code?

for(int count = 0; count <= 3; count++)

for(int count2 = 0; count2 < count; count2++)

System.out.println(count2);

Ans:

0

0

1

0

1

2

1. Print this using a loop.

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Ans:

for(int i = 0; i < 6; i++)

System.out.print("\*");

1. Print this using a loop.

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Ans:

for(int rows = 0; rows < 6; rows++)

{

for(int columns = 0; columns < 6; columns++)

{

System.out.print("\*");

}

System.out.println();

}

1. Print this using a loop.

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Ans:

for(int rows = 0; rows < 5; rows++)

{

for(int columns = 0; columns < (rows + 1); columns++)

{

System.out.print("\*");

}

System.out.println();

}

1. Print this using a loop.

#

#

#

#

#

Ans:

for(int rows = 0; rows < 5; rows++)

{

for(int columns = 0; columns < rows; columns++)

{

System.out.print(" ");

}

System.out.println("#");

}