OBJECT ORIENTED PROGRAMMING

Tutorial #6: While and Do…While Loops

Question 1:

What is the output of the following?

A.

```
int count = 0;
while (count <= 6)
{
        System.out.print(count + " ");
        count = count + 2;
}
System.out.println( );
```

B.

```
int count = 7;
while (count >= 4)
{
        System.out.print(count + " ");
        count = count - 1;
}
System.out.println( );
```

C.

```
int i; int j;
boolean again = true;

for (i = 1; i < 5; i++)
{
   again = !again;
   for (j = 1; j < 5; j += 2)
   {
        System.out.print(i + " " + j);
        if (again)
            System.out.print("-");
        else
            System.out.print("*");
   }
   System.out.println();
}
```

D.

```
int a = 30;
int b = 3;

while (a >= b)
{
   System.out.println("while " + a + " " + b);
   if ((a % b) == 0)
   {
        a = a / b;
        b++;
   }
   else
   {
        a = a - 1;
        b = b - 1;
   }
}
System.out.println("the end " + a + " " + b);
```

E.

```
int i = 5, count = 0;
while (i != 1)
{
   System.out.println(count + " " + i);
   count++;
   if ((i % 2) == 0)
        i /= 2;
   else
        i = 3 * i + 1;
}
```

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F.

```java
boolean sign = true;
int sum = 0;
int n = 0;

while (sum < 30)
{
    if (sign)
            sum = sum + n;
    else
            sum = sum - n;
    System.out.print(sum);
    sign = !sign;
    n = n + 10;
}
```

G.

```java
int x = 0;
while (x != 8);
{
    System.out.print("Hello");
    x = x + 1;
}
```

H.

```java
int x = 0;
while (x != 8);
{
    System.out,print("Hello");
}
```

Question 2:

Write Java code that uses a ***do...while*** loop that prints even numbers from 2 through 10.

Question 3:

Write Java code that uses a *while* loop to print even numbers from 2 through 10.

Question 4:

Write Java code that uses a *do while* loop to sum the numbers from 1 through 50. Display the total sum to the console.

Question 5:

Write a Java program using a *while* loop to find and display the smallest positive integer whose remainder:
- when divided by 3 is 1,
- when divided by 5 is 2, and
- when divided by 7 is 3.