

King Saud University
College of Computer and Information Sciences
Computer Science Department

CSC 212

First Semester 1437-1438

Tutorial #2

Important: This tutorial has an online part, which you should complete on LMS
The deadline for this task is Monday October 3rd at 8:00 A.M

Question 1: Find the total number of primitive operations and the Big Oh notation of the following methods:

a)

	Statements	S/E	Freq.	Total
1	void findProduct(int n)			
2	{			
3	int product = 1;			
4	for (int i = 0; i<10; i=i+2)			
5	{			
6	product = product * i;			
7	}			
8	System.out.println(product);			
9	}			
	Total Operations			
	Big Oh			

b)

	Statements	S/E	Freq.	Total
1	void findNestedProduct(int n)			
2	{			
3	int product = 1;			
4	for (int i = 0; i < n; i = i + 2)			
5	{			
6	for (int j = 0; j < 6; j ++)			
7	product = product * i * j;			
8	}			
9	System.out.println(product);			
10	}			
	Total Operations			
	Big Oh			

c)

	Statements	S/E	Freq.	Total
1	void sum1(int n)			
2	{			
3	int sum = 0;			
4	for (int i = 1; i <= n; i++)			
5	{			
6	for (int j = 1; j <= i; j++)			
7	sum = sum + 1;			
8	}			
9	System.out.println(sum);			
10	}			
	Total Operations			
	Big Oh			

Is there any other way to solve the above problem in better performance?

d)

	Statements	S/E	Freq.	Total
1	<i>Public int method4(int n)</i> <i>{</i> <i>for (int i = 0; i < n; i++)</i> <i>for (int j = n; j >= 1; j=j/2) {</i> <i>sum += 1;</i> <i>}</i> <i>return sum;</i> <i>}</i>			
2				
3				
4				
5				
6				
9				
10				
	Total Operations			
	Big Oh			