Assignment #1 – SPRING 2020

Course Title:	Design and Analysis of Algorithms	Course Code:	CSC301	Credit Hours:	3
Course Instructor:	Dr. Hasan Jamal	Date:		21/02/2020	
Deadline:	27/02/2020	**Maximum Marks:**		**10**	

Important Instructions / Guidelines:
- Handwritten strictly.
- Maximum three persons per group are allowed for submission.
- No late submission allowed

Question: **[Marks: 4 + 4 + 2]**

For the following code snippet, provide line-by-line analysis and construct function T(n) that give the runtime of this code snippet as a function of "n". Also determine the big-Oh of for this code snippet.

```
x = 10,000;
for (int i = 1; i <= n; i++)  {
      if ( x < i)
          sum += foo( i );
          system.out.print(sum);
      else
           for (j = 1; j <= i; j++)
               system.out.print( i );
       system.out.println( );
}


foo (a) {
      for (int i = 0; i < n; i++)
           sum += a * i;
      return sum;
}
```