**SU2 Assignment**

Write the Tau-notation for the following code:

|  |  |  |  |
| --- | --- | --- | --- |
| **1.** | if(weight==60) | **7.** | if(x\*=z<60) |
| **2.** | if(a<b++) | **8.** | if(x[i]>z[c]) |
| **3.** | return --length; | **9.** | x=getY(a[1]); |
| **4.** | a=b[--c]; | **10.** | sum=x[2]+z[0]; |
| **5.** | if(x>=y[z]) | **11.** | ans = A + getB(C); |
| **6.** | if(age-10==40) |  |  |

**12.** Now analyse questions 1 to 6 again using the simplified method.

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| --- | --- | --- | --- |
| a. | if(weight==60) | d. | a=b[--c]; |
| b. | if(a<b++) | e. | if(x>=y[z]) |
| c. | return --length; | f. | if(age-10==40) |

Use the simplified model to analyse the following program segments.  Remember to write your answers in the simplest form.

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| --- | --- | --- | --- |
| **13.** | for(int i = 0;i <= n; ++i) | **14.** | for(int i=0;i<=n+1;++i) |
| Total |  |  |  |

1. Study the code below. Write down the simplified analysis of lines 6a, 6b, 6c and 8a, 8b and 8c on the next page.

1    public class Question  
2    {  
3       public static int numbers (int n)  
4       {  
5       int ans = 1;  
6       for (int i=1;  i<=n;  i++ )  
7         {     
8             for ( int j=0;  j<=i+1; ++j)    
9               ans +=i;  
10          }  
11        return ans;  
12     }  
13    }

|  |  |  |  |
| --- | --- | --- | --- |
| 6a. |  | 8a. |  |
| 6b. |  | 8b. |  |
| 6c. |  | 8c. |  |

1. Again, study the code in question 15. Write down the asymptotic analysis of lines 6a, 6b, 6c and 8a, 8b and 8c.

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| --- | --- | --- | --- |
| 6a. |  | 8a. |  |
| 6b. |  | 8b. |  |
| 6c. |  | 8c. |  |