



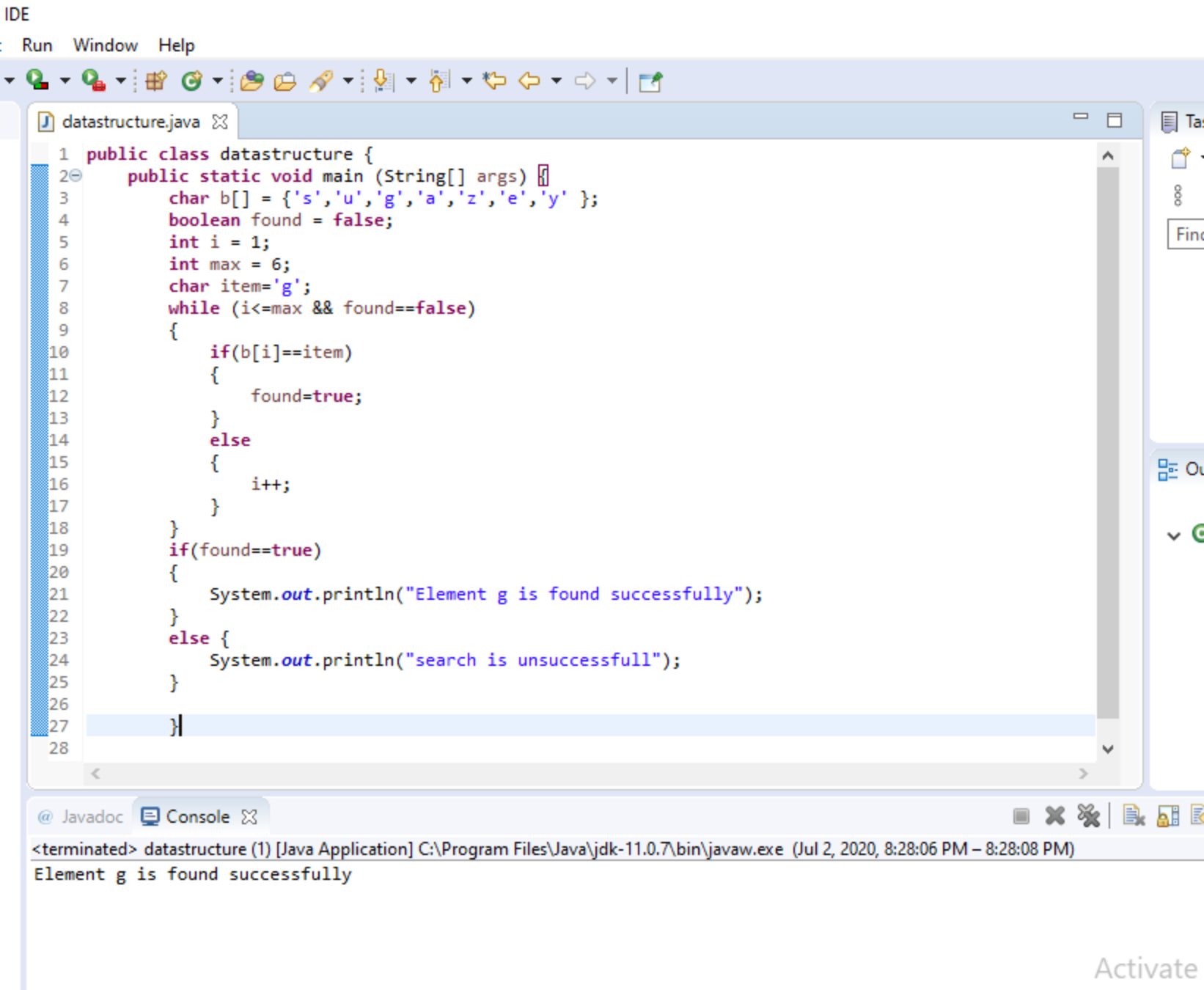
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SUBJECT: DATA STRUCTURES AND ALG-

SEMESTER: 3<sup>RD</sup>

**PROGRAMME:** BS (SOFTWARE ENGINEERING)



Q2) Suppose there is a list of 6 unsorted elements. 15, 10, 12, 11, 9, 10 Design a Program to create an array A [] and store this list in it, and then apply Insertion Sort Algorithm to Sort the list.

```
package data;
```

```
public class Lab {
```

```
    public static void main(String[] args) {
```

```
        int []numbers= {15,10,12,11,9,10};
```

```
        sort(numbers);
```

```
        printArray(numbers);
```

```
    }
```

```
    public static int[]sort(int[]A)
```

```
    {
```

```
        for( int i=1; i<A.length; i++)
```

```
        {
```

```
            int key=A[i];
```

```
            int j=i-1;
```

```
            while(i>=0 && A[j]>key)
```

```
            {
```

```
                A[j+1]=A[j];
```

```
                j--;
```

```
            }
```

```
            A[j+1]=key;
```

```
        }
```

```
        return A;
```

```
}  
  
    public static void printArray(int[]A)  
    {  
        for(int i=0; i<A.length; i++)  
        {  
            System.out.println(A[i]);  
        }  
    }  
  
}
```

```
Sorted Array:  9 10 10 11 12 15  
-----  
Process exited after 0.6438 seconds with return value 0  
Press any key to continue . . .
```