**Exponential Search**

This section will guide you to:

* Create a Java class in your IDE
* Implement the exponential search algorithm in a predefined array
* Check if the element is available in the predefined array

This guide has three subsections, namely:

5.3.1 Writing a program in Java implementing the exponential search algorithm

5.3.2 Executing the program to verify the execution of the exponential search algorithm

5.3.3 Pushing the code to your GitHub repositories

**Step 5.3.1:** Writing a program in Java implementing the exponential search algorithm

There are two ways you can perform this step; you can create a new Java project, or you can create a new Java class in the existing project. It is preferable to create a new Java class in the existing project but feel free to explore the first option. The steps mentioned below will work once you create a project in Java.

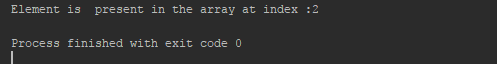
* Open Eclipse
* *[Right click]* on the **src** folder of the project
* Select *New* -> *Java Class* -> Enter the filename (follow camelCasing)
* Execute the code below resolving the warning and errors due compatibility-related issues

import java.util.Arrays;  
  
public class expSearch {  
  
public static void main(String[] args){  
  
 int[] arr = {6,12,18,24,32};  
 int length= arr.length;  
 int value = 18;  
 int outcome = *exponentialSearch*(arr,length,value);  
  
 if(outcome<0){  
  
 System.*out*.println( "Element is not present in the array");  
  
 }else {  
  
 System.*out*.println( "Element is present in the array at index :"+outcome);  
 }  
  
 }  
  
 public static int exponentialSearch(int[] arr ,int length, int value ){  
  
 if(arr[0]==value){  
 return 0;  
 }  
 int i=1;  
 while(i<length && arr[i]<=value){  
  
 i=i\*2;  
 }  
 return Arrays.*binarySearch*(arr,i/2,Math.*min*(i,length),value);  
 }  
  
  
}

**Step 5.3.2:** Executing the program to verify the execution of exponential search algorithm

Before you execute the program, check for syntactical corrections. If no errors are found, follow the steps mentioned below:

* ***[Right click]*** in the program space
* Select *Run* ***‘expSearch.main()’***



What is big O for the binarySearch method? Look it up in JavaDocs.