**Name:** John Patrick F. Narvasa

**Section/Schedule:** 1 BSCS-2 , Friday 4PM-7PM

**Program:** BS Computer Science

**Course:** Data Structures and Algorithms

**Basic Operations with Array**

**Traverse:**

| **Source Code:**  public class Traverse {  public static void main(String[] args) {  int[] LA = {1,3,5,7,8};  int item = 10, k = 3, n = 5;  int i = 0, j = n;  System.out.print("The original array elements are :\n");  for (i = 0; i < n; i++) {  System.out.print(String.format("LA[%d] = %d \n", i, LA[i]));  }  }  } |
| --- |
| **OUTPUT:** |

**Insertion:**

| **Source Code:**  public class Insertion {  public static void main(String[] args) {  int[] LA = {1,3,5,7,8};  int item = 10, k = 3, n = 5;  int i = 0, j = n;    System.out.print("The original array elements are :\n");  for (i = 0; i < n; i++) {  System.out.print(String.format("LA[%d] = %d \n", i, LA[i]));  }    // Expand number of elements  int[] newLA = new int[n + 1];    for (i = 0; i < n; i++) {  newLA[i] = LA[i];  }    // Insertion  n = n + 1;  while (j > k) {  newLA[j] = newLA[j - 1]; // Shift elements to the right  j--;  }    newLA[k] = item;    System.out.print("The array elements after insertion: \n");  for (i = 0; i < n; i++) {  System.out.print(String.format("LA[%d] = %d \n", i, newLA[i]));  }  }  } |
| --- |
| **OUTPUT:** |

**Deletion:**

| **Source Code:**  public class Deletion {  public static void main(String[] args) {  int[] LA = {1,3,5,7,8};  int k = 3, n = 5;  int i, j;    System.out.print("The original array elements are :\n");  for (i = 0; i < n; i++) {  System.out.print(String.format("LA[%d] = %d \n", i, LA[i]));  }    // Deletion  j = k;  while (j < n) {  LA[j - 1] = LA[j];  j = j + 1;  }  n = n - 1;  System.out.print("The array elements after deletion: \n");  for (i = 0; i < n; i++) {  System.out.print(String.format("LA[%d] = %d \n", i, LA[i]));  }  }  } |
| --- |
| **OUTPUT:** |

**Search:**

| **Source Code:**  public class Search {  public static void main(String[] args) {  int LA[] = {1,3,5,7,8};  int item = 5, n = 5;  int i = 0, j = 0;    System.out.print("The original array elements are :\n");  for (i = 0; i < n; i++) {  System.out.print(String.format("LA[%d] = %d \n", i, LA[i]));  }    // Search  while (j < n) {  if (LA[j] == item) {  break;  }  j = j + 1;  }    System.out.print(String.format("Found element %d at position %d \n", item, j+1));  }  } |
| --- |
| **OUTPUT:** |

**Update:**

| **Source Code:**  public class Updation {  public static void main(String[] args) {  int LA[] = {1,3,5,7,8};  int k = 3, n = 5, item = 10;  int i, j;    System.out.print("The original array elements are :\n");  for (i = 0; i < n; i++) {  System.out.print(String.format("LA[%d] = %d \n", i, LA[i]));  }    // Update value  LA[k-1] = item;    System.out.print("The array elements after updation :\n");  for (i = 0; i < n; i++) {  System.out.print(String.format("LA[%d] = %d \n", i, LA[i]));  }  }  } |
| --- |
| **OUTPUT:** |