Aim:- To Implement Binary Search

Source Code:-

```
#include <stdio.h>
int binarySearch(int array[], int x, int low, int high) {
if (high >= low) {
int mid = low + (high - low) / 2;
// If found at mid, then return it
if (array[mid] == x)
return mid;
// Search the left half
if (array[mid] > x)
return binarySearch(array, x, low, mid - 1);
// Search the right half
return binarySearch(array, x, mid + 1, high);
}
return -1;
}
int main(void) {
printf("D10A_Atharva Chavan_9\n");
printf("****Implementation of Binary Search****\n");

int array[] = {3, 4, 5, 6, 7, 8, 9};
int n = sizeof(array) / sizeof(array[0]);
```

```
int x = 4;
int result = binarySearch(array, x, 0, n - 1);
if (result == -1)
printf("Not found");
else
printf("Element is found at index %d", result);
}
```

Output:-

```
D10A_Atharva Chavan_9
****Implementation of Binary Search****
Element is found at index 1

...Program finished with exit code 0
Press ENTER to exit console.
```