Experiment No: 4

Binary Search

CODE:

```
#include <stdio.h>

int binarySearch(int arr[], int l, int r, int x)

{

        while (l <= r) {

                int m = l + (r - l) / 2;

                if (arr[m] == x)

                        return m;

                if (arr[m] < x)

                        l = m + 1;

                else

                        r = m - 1;

        }

        return -1;

}

int main(void)

{

        int arr[] = { 2, 3, 4, 10, 40 };

        int n = sizeof(arr) / sizeof(arr[0]);

        int x = 10;

        int result = binarySearch(arr, 0, n - 1, x);

        (result == -1) ? printf("Element is not present"

                                                        " in array")
```

```
                                    : printf("Element is present at "
                                                    "index %d",
                                                    result);
        return 0;
}
```

OUTPUT: