**EXTRA ASSIGNMENT**

**ASSIGNMENT-3**

**EXPERIMENT – 6: Write a program to perform Interpolation Search on an array.**

#include <stdio.h>

int InterpolationSearch(int A[], int n, int x)

{

int low = 0, high = n - 1, mid;

while (low<=high)

{

mid = low + ((x - A[low]) \* (high - low) / (A[high] - A[low]));

if (x == A[mid])

return mid;

else if (x < A[mid])

high = mid - 1;

else

low = mid + 1;

}

if (x == A[low])

return low ;

else

return -1;

}

int main()

{ int search,n,A[30];

printf("\nEnter the size of array:");

scanf("%d",&n);

printf("\n\nEnter the elements of array:-\n");

for(int i=0;i<=n;i++)

{

scanf("%d",&A[i]);

}

printf("\nEnter the element you want to search:");

scanf("%d",&search);

int index = InterpolationSearch(A, n, search);

if (index != -1)

printf("\n%d found at index %d", search,index);

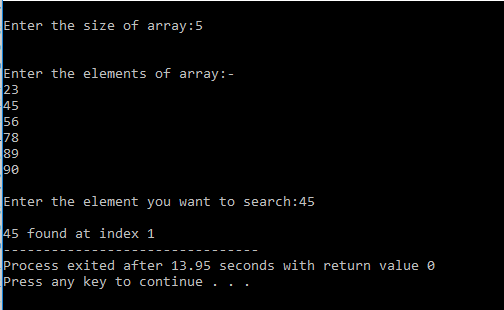
else

printf("\nElement not found in the array");

return 0;

}

**OUTPUT-**

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