16.LINEAR SEARCH

#include <stdio.h>

#include <stdbool.h>

int linearSearch(int arr[], int size, int key)

{

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

{

if (arr[i] == key)

{

return i;

}

}

return -1;

}

int main()

{

int n;

printf("Enter the number of elements: ");

while (scanf("%d", &n) != 1 || n <= 0)

{

printf("Invalid input. Please enter a positive integer: ");

while (getchar() != '\n');

}

int arr[n];

printf("Enter %d elements:\n", n);

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

{

while (scanf("%d", &arr[i]) != 1)

{

printf("Invalid input. Please enter an integer: ");

while (getchar() != '\n');

}

}

int key;

printf("Enter the key element to search: ");

while (scanf("%d",&key)!=1)

{

printf("Invalid input. Please enter an integer: ");

while (getchar() !='\n');

}

int position = linearSearch(arr,n,key);

if(position!=-1)

{

printf("Element found in position %d\n", position + 1);

}

else

{

printf("Element not found.\n");

}

return 0;

}

OUTPUT

