**9. Write a C program to search a number using Binary Search method**

#include <stdio.h>

int main() {

int arr[] = {2, 5, 8, 12, 16, 23, 38, 45, 56, 72};

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

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

printf("Sorted array: ");

for(int i=0; i<n; i++) printf("%d ", arr[i]);

printf("\nEnter number to search: ");

scanf("%d", &search);

while(low <= high) {

int mid = (low + high) / 2;

if(arr[mid] == search) {

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

return 0;

}

else if(arr[mid] < search)

low = mid + 1;

else

high = mid - 1;

}

printf("%d not found in array\n", search);

return 0;

}