20. Write a program to implement binary search

```
#include <stdio.h>
#include <conio.h>
main()
{
   int arr[10], num, i, n, pos = -1, beg, end,
   mid, found = 0;
   clrscr();
   printf("\n Enter the number of elements
   in the array: ");
   scanf("%d", &n);
   printf("\n Enter the elements: ");
   for(i=0; i<n; i++)
   {
      scanf("%d", &arr[i]);
   }
   printf("\n Enter the number that has to
   be searched: ");
   scanf("%d", &num);

   beg = 0, end = n-1;
   while(beg ≤ end)
   {
      mid = (beg + end)/2;
```

```
    if (arr[mid] == num)
    {
    printf("\n %d is present in the array
       at position = %d", num, mid);
    found = 1;
    break;
    }
    if (arr[mid] >num)
       end = mid-1;
    else if (arr[mid] < num)
       beg = mid+1;
  }
  if (beg > end && found == 0)
     printf("\n %d does not exist IN THE
        ARRAY", num);
  getch();
  return 0;
}
```

Output

```
Enter the number of elements in the array: 5
Enter the elements: 1 2 3 4 5
Enter the number that has to be searched: 7
7 does not exist in the array
```