

UNIV.ROLL

### GIET UNIVERSITY, GUNUPUR

SHEET NO.

```
AIM: IMPLEMENTATION OF BINARY SEARCH
a) itercative Method:
 #Include (state), still the time
  int binarcysearch Cint armay [], intx, int low, int high) {
    while clow <= high) {
     int mid = low + chigh-low) /2;
     if carcray[mid] == x)
         return mid;
     IF Carcray [mid] (x)
        low = mid +1;
     else
       hgh=mid-1;
  returen -1;
int main cools {
  int armay []= { 3,4,5,6,7,8,9};
  Int n= size of carray)/size_of(array coz);
  int result=binarysearch(array,x,0,n-1);
  IF CROSULT ==-1)
    Prantfc "Not found");
    Pruntf c"Hement at Index "1'd", result);
    return o;
```

### ALGORITHM: Was valued to moltrethadiably in 1911

do until the Pointers low and high med each other mid = Clow + high 1/2

If (x == arcremids)

return mid

else IF (x) arcremids)

low = mid +2

else

high = mid -1

Cxx ChenTustans 30

: It has a mo

E- Frenchisch



other

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```
b) Recursive Method
                                    SHEET NO.
#include(state)
 int binary search cint armay co, int x, int low, int high) {
   int mid = low+ chyh-lows/2;
   IF (annay[mid] == x)
                           in the land of
     return mid;
  IF Cartray [mid] > x).
    noturen binarysearch carray, x, low, mid-1);
  return binary search carray, x, md+2, high;
return -1;
int void (main) {
   int array[]=[3,4,5,6,7,8,9];
   int n= size of carriays / size of carriage of;
   int result = binarysearch carray.x,o,n-v;
   1 F Crosult ==-1)
      PrantforNot found");
     Pruntic "Element is found at index "rid", result);
```

#### ALGORITHM:

Linear\_search (a,n, val)

'Val' 13 the value to search

facility a sylenius

7 contextions

Crephon Monday 11

. Ptomot townsty.

Step 1: set Pos = -1

step 2: set i=1

151/wot-Hinto + wot + hing fra step 3: sepeat step 4 while i <= 17

Step4: IFacij==val

set Pos=i

Prunt Pos - Maria Maria Maria Maria Maria

go to step 6.

tend of 1F7

set 11=1+1

Cerd of 100P7

Step 5: IF POS = -1

7 arrangement to Pront "value is not Present in the array" Cend of if gryours foods ( works to some in for

"History of the Reput to those of the

step 6: exit int cosult - binarysanch currous, x, o.n.-



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AIM: IMPLEMENTATION OF LINEAR SEARCH
                                       SHEET NO.
  #include <stdio.h)
   int search cintarrics, intrintx)
  1
    int i;
     Forc Ci=o; i<n; i+t)
          IF (arcreti) == x)
              return i;
       return -1;
 int main (void)
 f int arrit]={2,3,4,10,40};
   int x=10;
   int n= size of carro / size of carro 1);
   int result = sourch carrinix;
       Pprintfc" Element is not Present in array "
   cresult == -1)
       · Pruntfc "Flement 15 at Index 1/1d", reesults;
    roturn o;
```