**Searching Mechanism**

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| 1 | Linear Search |
|  | main()  {  int x[10]={10,40,30,13,20,5,1,90,70,25};  int i,n,f=0;    printf("Enter the number to be searched: ");  scanf("%d",&n);  for(i=0;i<10;i++)  {  if(n==x[i])  {  f=1;  break;  }  }    if(f==1)  printf("found");  else  printf("not found");  } |
| 2 | Binary Search |
|  | main()  {  int a[10]={10,20,30,40,50,60,70,80,90,100};  int f=0;  int low=0,up=9,mid,n;  printf("Enter number to search:");  scanf("%d",&n);  while(low<=up)  {  mid=(low+up)/2;  if(n==a[mid])  {  f=1;  break;  }  else  if(n>a[mid])  low=mid+1;  else  up=mid-1;  }  if(f==1)  printf("Found");  else  printf("Not found");  } |
| 3 | Interpolation Search |
|  | main()  {  int a[10]={10,20,30,40,50,60,70,80,90,100};  int f=0;  int low=0,up=9,mid,n;  printf("Enter number to search:");  scanf("%d",&n);  while(low<up)  {  mid=low+((n-x[low])\*(up-low))/(x[up]-x[low]);  if(n==a[mid])  {  f=1;  break;  }  else  if(n>a[mid])  low=mid+1;  else  up=mid-1;  }  if(f==1)  printf("Found");  else  printf("Not found");  } |
| 4 | Searching using Linear Probing |
|  | main()  {  int x[6];  memset(x,0,sizeof(x));  int j,i=0,m=6,key,pos,f=0;    for(j=1;j<=6;j++)  {  printf("enter key");  scanf("%d", &key);  pos=(key%m+i)%m;  if(x[pos]==0)  x[pos]=key;  else  {  while(i<m)  {  i++;  pos=(key%m+i)%m;  if(x[pos]==0)  {    x[pos]=key;  i=0;  break;  }  }  }  }  i=0;  printf("Enter number to search: ");  scanf("%d", &key);  pos=(key%m+i)%m;  if(key==x[pos])  f=1;  else  {  while(i<m)  {  i++;  pos=(key%m+i)%m;  if(key==x[pos])  {  f=1;  break;  }  }  }  if(f==1)  printf("Found");  else  printf("not found");  } |
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