**PROBLEM :01**

#include<stdio.h> int main()

{

int a[100],b,i;

scanf("%d",&b); for(i=0;i<b;i++){

scanf("%d",&a[i]);

}

int max = a[0];

for(i=1;i<b;i++){ if(a[i]>max)

{

max=a[i];

}

}

printf("%d",max);

}

**PROBLEM :02**

#include <stdio.h>

int binSearch(int a[], int L, int R, int key) { if (L <= R) {

int mid = L + (R - L) / 2;

if (a[mid] == key) { return 1;

} else if (a[mid] < key) {

return binSearch(a, mid + 1, R, key);

} else {

return binSearch(a, L, mid - 1, key);

}

}

return 0;

}

int main() { int m, p;

scanf("%d %d", &m, &p); int a[m];

for (int i = 0; i < m; i++) { scanf("%d", &a[i]);

}

if (binSearch(a, 0, m - 1, p)) { printf("true\n");

} else {

printf("false\n");

}

return 0;

}

**PROBLEM :03**

#include <stdio.h> int main()

{

int a; while (1) {

scanf("%d", &a); if (a == 0) {

break;

}

int ans = g(a); printf("%d\n", ans);

}

return 0;

}

int g(int a) { if (a == 0) {

return 0;

}

if (a % 9 == 0) {

return 9;

}

return a % 9;

}

**PROBLEM :04**

#include <stdio.h> int main() {

int a,k; scanf("%d", &a);

while (a--) { int b;

scanf("%d", &b); int carry[b];

for ( k = 0; k < b; k++) { scanf("%d", &carry[k]);

}

int swap = 0,i,j;

for (i = 0; i < b - 1; i++) {

for ( j = 0; j < b - i - 1; j++) { if (carry[j] > carry[j + 1]) {

int count = carry[j]; carry[j] = carry[j + 1]; carry[j + 1] = count; swap++;

}

}

}

printf("Optimal train swapping takes %d swaps.\n", swap);

}

return 0;

}