1. Write a C program that can input some numbers into an array and which one has the highest number of factors

#include<stdio.h>

int main ()

{

int x[10000],n,i,j,y,a,p,q;

printf("Enter the total numbers:\n");

scanf("%d",&n);

printf("Enter the numbers one by one:\n");

for(i=1; i<=n; i++)

{

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

}

a=0;

q=0;

for(i=1; i<=n; i++)

{

y=0;

for(j=1; j<=x[i]; j++)

{

if (x[i]%j==0)

{

y++;

}

}

if(q<y)

{

q=y;

p=x[i];

}

}

printf("Total number of highest factors: %d\nAnd the number who has the highest number of factors: %d",q,p);

return 0;

}

2. Write a C program that can input some numbers into an array and display the maximum and also how many times that maximum number is there.

#include<stdio.h>

#include<math.h>

int main()

{

int x[100000],y,i,n,a;

printf("Enter the total numbers:\n");

scanf("%d",&n);

printf("Enter the numbers one by one:\n");

for(i=0; i<n; i++)

{

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

}

y=0;

for(i=0; i<n; i++)

{

if(x[i]>y)

{

y=x[i];

}

}

printf("The maximum number is: %d\n",y);

for(i=0; i<n; i++)

{

if(x[i]==y)

{

a=a+1;

}

}

printf("and the maximum number total founded: %d times",a);

return 0;

}

3. Write a C program that can input some numbers into an array and display that pair of those number which’s difference is highest.

#include<stdio.h>

int main()

{

int x[1000],a,i,j,dis,dif,v1,v2;

printf("enter the numbers: ");

scanf("%d",&a);

printf("Enter the value of the numbers one by one: ");

dif=0;

for(i=0; i<a; i++)

{

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

}

for(i=0; i<a; i++)

{

for(j=0; j<a; j++)

{

dis=x[i]-x[j];

if(dis>dif)

{

dif=dis;

v1=x[i];

v2=x[j];

}

}

}

printf("the pair of numbers %d and %d are the highest",v1,v2);

return 0;

}

4. Write a C program that can input some numbers into an array and display GCD of every possible pair

#include<stdio.h>

int main(){

int x[50],i,j,m,n,p,q;

printf("Enter total number of inputs:");

scanf("%d",&n);

for(i=0;i<n;i++){

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

}

m=0;

for(i=0;i<n;i++){

for(j=i+1;j<n;j++){

for(p=1;p<=x[i] && p<=x[j];p++){

if(x[i]%p==0 && x[j]%p==0){

q=p;

}

}

printf("The GCD of pair %d,%d is %d\n",x[i],x[j],q);

}

}

return 0;

}

5. Write a C program that can input some numbers indicating in which class (in range of 1 to 10) a student is admitted. Display in which class the highest number of students is admitted.

#include<stdio.h>

int main()

{

int x[100],a,b,i,max,t;

printf("enter number of students: ");

scanf("%d",&a);

printf("Enter the students class: ");

max=0;

for(i=1; i<=a; i++)

{

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

}

for(i=1; i<=a; i++)

{

if(x[i]>max)

{

max=x[i];

t=i;

}

}

printf("Highest Number of students in class :%d",t);

return 0;

}