**ANSWER TO THE QUESTION 1 :**

#include <stdio.h>

struct student

{

char name [100];

double cgpa;

};

int func ( struct student x[100],int n) {

int i,p;

double max=0;

max=x[0].cgpa;

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

if (x[i].cgpa>max) {

max=x[i].cgpa;

p=i;

}

}

return p;

}

int main () {

struct student x[100];

int n,i,m;

double max=0;

scanf ("%d",&n);

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

printf ("Enter the name : ");

fflush (stdin);

gets (x[i].name);

printf ("Enter the cgpa : ");

scanf ("%f",&x[i].cgpa);

}

m= func (x,n);

printf ("Name of the student is %s",x[m].name);

}

**ANSWER TO THE QUESTION 2 :**

int isPrime(int d) {

int i,c;

c=0 ;

for(i=2;i<d;i++) {

if (d%i==0) {

c++;

}

}

if (c==0){

return 4 ;

}

else {

return 9 ;

}

}

#include<stdio.h>

int main ()

{

int x[100],y[100],i,n,c ;

scanf("%d",&n) ;

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

printf("Enter numbers") ;

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

}

c=0 ;

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

y[i]=isPrime(x[i]) ;

}

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

if (y[i]==4) {

c++;

}

}

printf("\n%d number/numbers are/is prime\n ",c);

}

**ANSWER TO THE QUESTION 3 :**

#include <stdio.h>

struct country {

char name [100];

long long int population,area;

};

int main ()

{

int i,n,t=0;

long long int min=0,d;

struct country x[40];

scanf ("%d",&n);

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

printf ("Enter the name : ");

fflush (stdin);

gets (x[i].name);

printf ("Enter the population : ");

fflush (stdin);

scanf ("%LLd",&x[i].population);

printf ("Enter the area : ");

fflush (stdin);

scanf ("%LLd",&x[i].area);

}

min=(x[0].population/x[0].area);

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

if ((x[i].population/x[i].area)<min) {

min=x[i].population/x[i].area;

t=i;

}

}

printf ("%s country has the least people in per area ",x[t].name);

}

**ANSWER TO THE QUESTION 4 :**

#include<stdio.h>

struct doctors

{

char name[100];

int age;

float exp;

};

struct specialdoctors

{

struct doctors d;

char area [10];

float exp\_sp;

};

int main()

{

struct doctors x[10];

struct specialdoctors y[10];

int i,n,sum1,sum2,t;

float avg1,avg2,avg;

scanf("%d",&n);

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

{

printf("Enter the name : ");

fflush(stdin);

gets(x[i].name);

printf("Enter the age : ");

fflush(stdin);

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

printf("Enter the year of experience : ");

fflush(stdin);

scanf("%f",&x[i].exp);

}

scanf ("%d",&t);

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

printf("Enter the name of special doctors : ");

fflush(stdin);

gets(y[i].d.name);

printf("Enter the age of special doctors : ");

fflush(stdin);

scanf("%d",&y[i].d.age);

printf("Enter the year of experience doctors :-");

fflush(stdin);

scanf("%f",&y[i].d.exp);

printf("Enter the area of specialization : ");

fflush(stdin);

gets(y[i].area);

printf("Enter years of experience in special area: ");

fflush(stdin);

scanf("%f",&y[i].exp\_sp);

}

sum1=0;

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

sum1=sum1+(x[i].age);

}

avg1=(sum1/n);

printf ("Average age of the doctors %.f \n",avg1);

sum2=0;

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

sum2=sum2+(y[i].d.age);

}

avg2=(sum2/t);

printf ("Average age of the special doctors %.f \n",avg2);

avg=((avg1+avg2)/2);

printf ("Average of all doctors %.f \n",avg);

}