QUESTION 1

input - mark1,mark2

output-avg

st 1:start

st 2:declare mark1,mark2 and avg

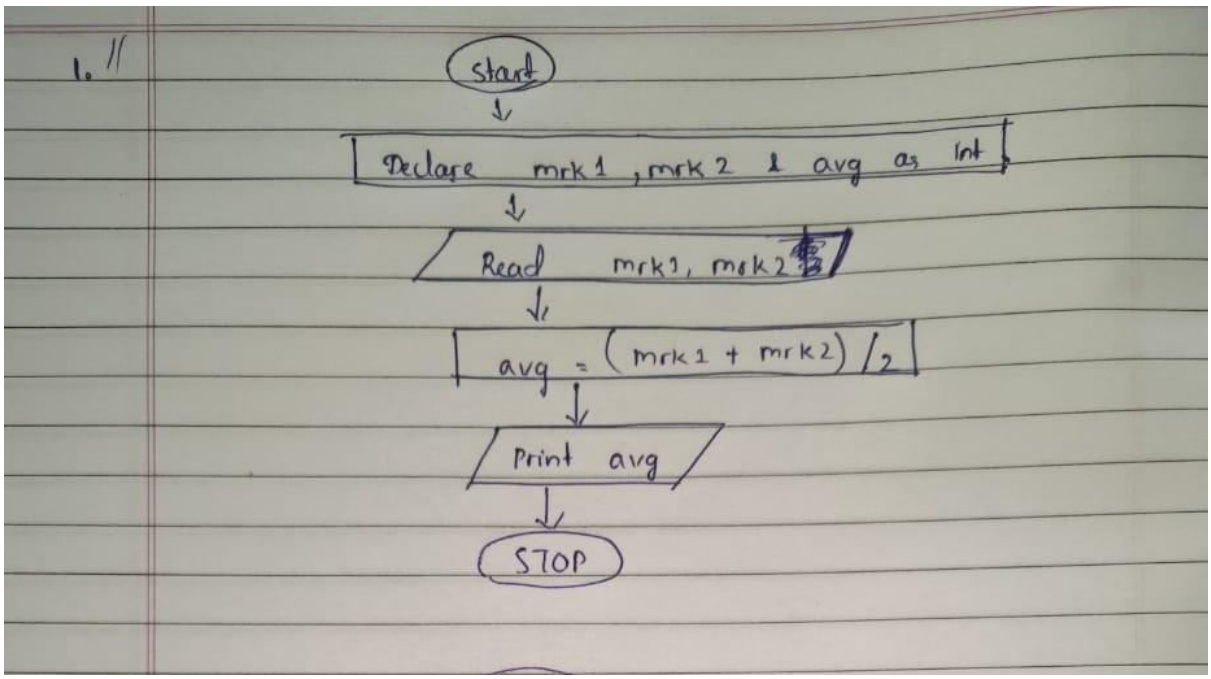
st 3:read mark1 and mark 2

st 4:add mrk1 and mark2 then divide it by two and assign it to avg

avg<---(mark1+mark2)/2

st 5:display avg

st 6:stop



QUESTION NO 2

input- isd,rtd,td

output-fine

st 1-:start

st 2-:declare isd,rtd,td,x,y,z,a,chrg

st 3-: read issued date,return date and today and assign them in isd,rtd and td respectively

st 4-: calculate total date assign it to x

x <-- rtd-isd

st 5-: now calculate days of book kept and assign it to y

y <- td-isd

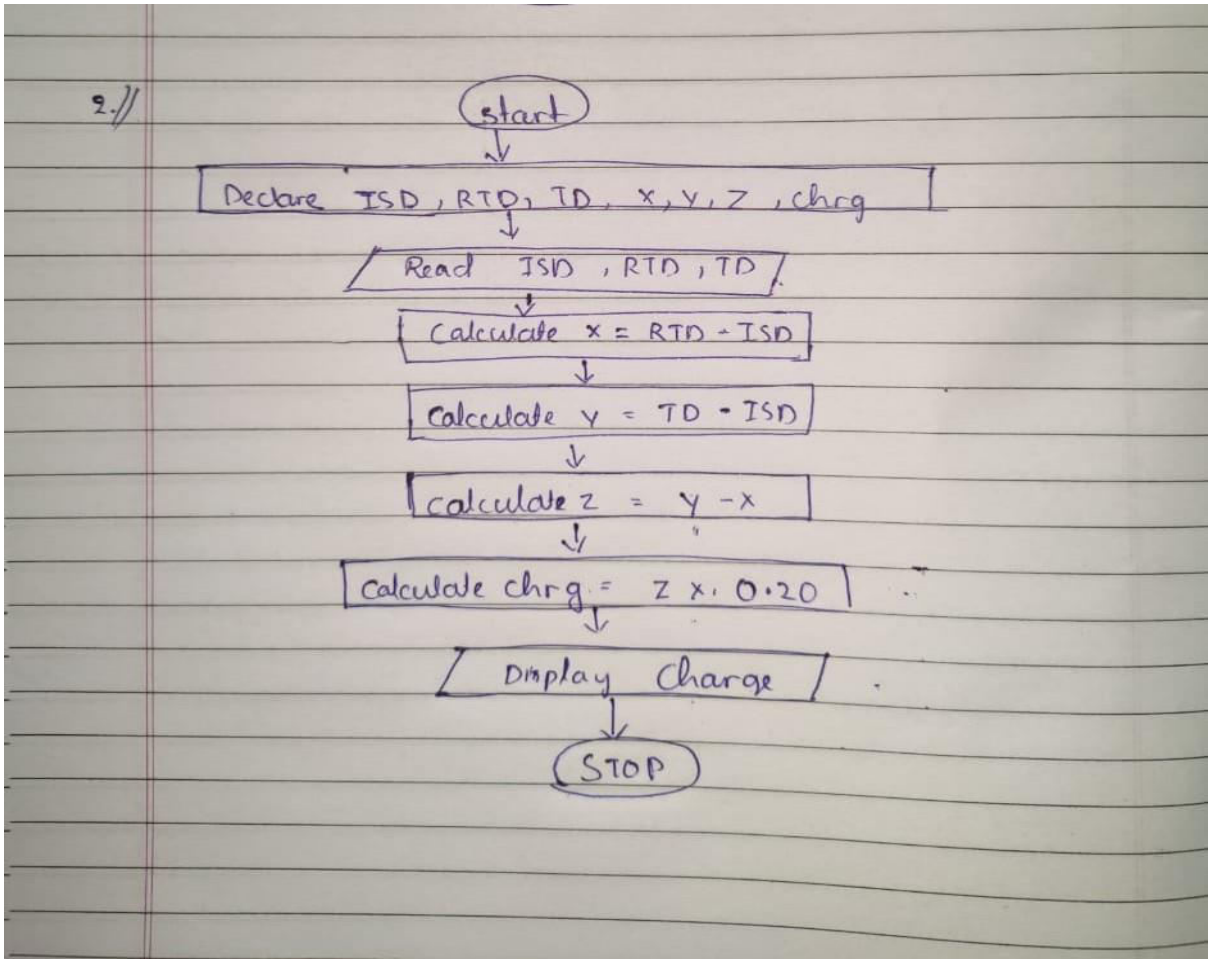
st 6-:calculate total days to be fined and assign it to z

z<--y-x

st 7-: now calculate charges chrg<-- z*0.20

st 8-:display chrg

st 9-:stop



QUESTION NO 3

input -cst,disc

output-netp

st 1: start

st 2: declare cst,disc,dp,netp

st 3: initialize cst and disc

st 4: calculate dicuonted price and assign in dp

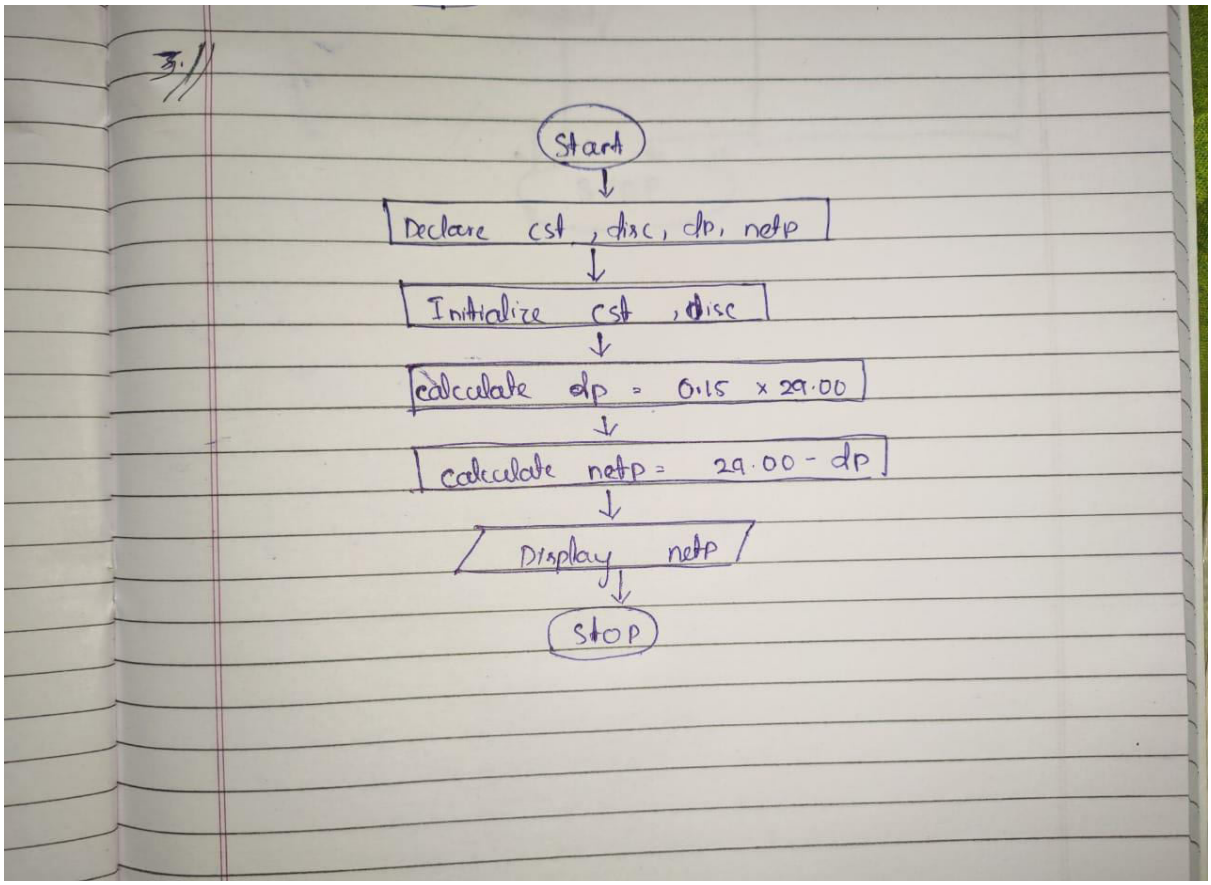
dp <---0.15*cst

st 5: calulate net price and assign in netp

netp <---cst-dp

st 6:display netp

st 7:stop



QUESTION NO 4

input a,b,c

output smallest among three

st 1:start

st 2:declare a, b, c and smallest

st 3:read a,b,c

st 4:compare a with b and c

(a<b) (a<c) then a is smallest

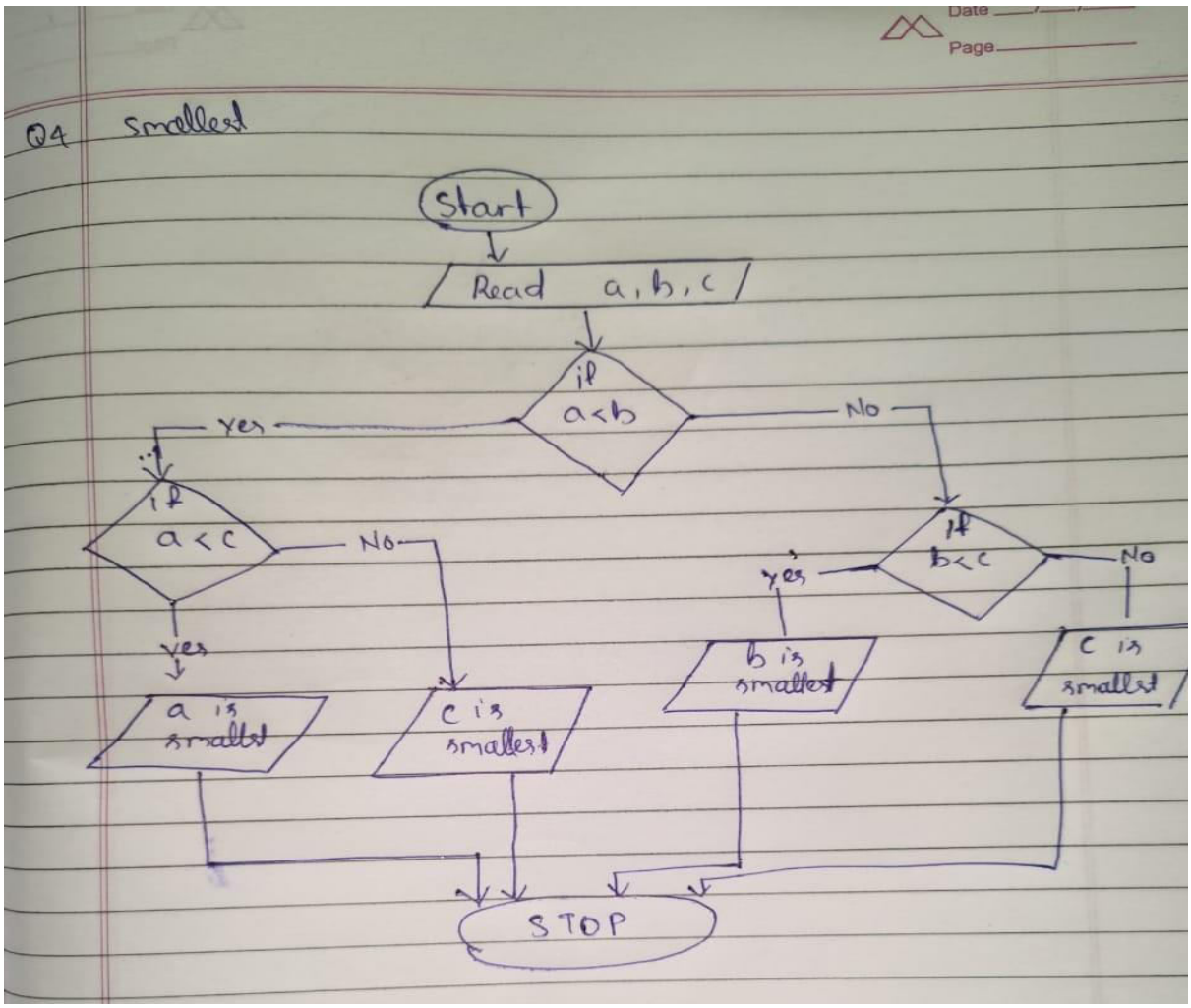
st 5:Compare b with a and c

(b<a) (b<c) then b is smallest

st 6:else c is smallest

st 7:display smallest

st 8:stop



QUESTION NO 5

INPUT-a, b, c

OUTPUT-x1, x2

St 1: start

St 2: declare a, b, c, x1, x2

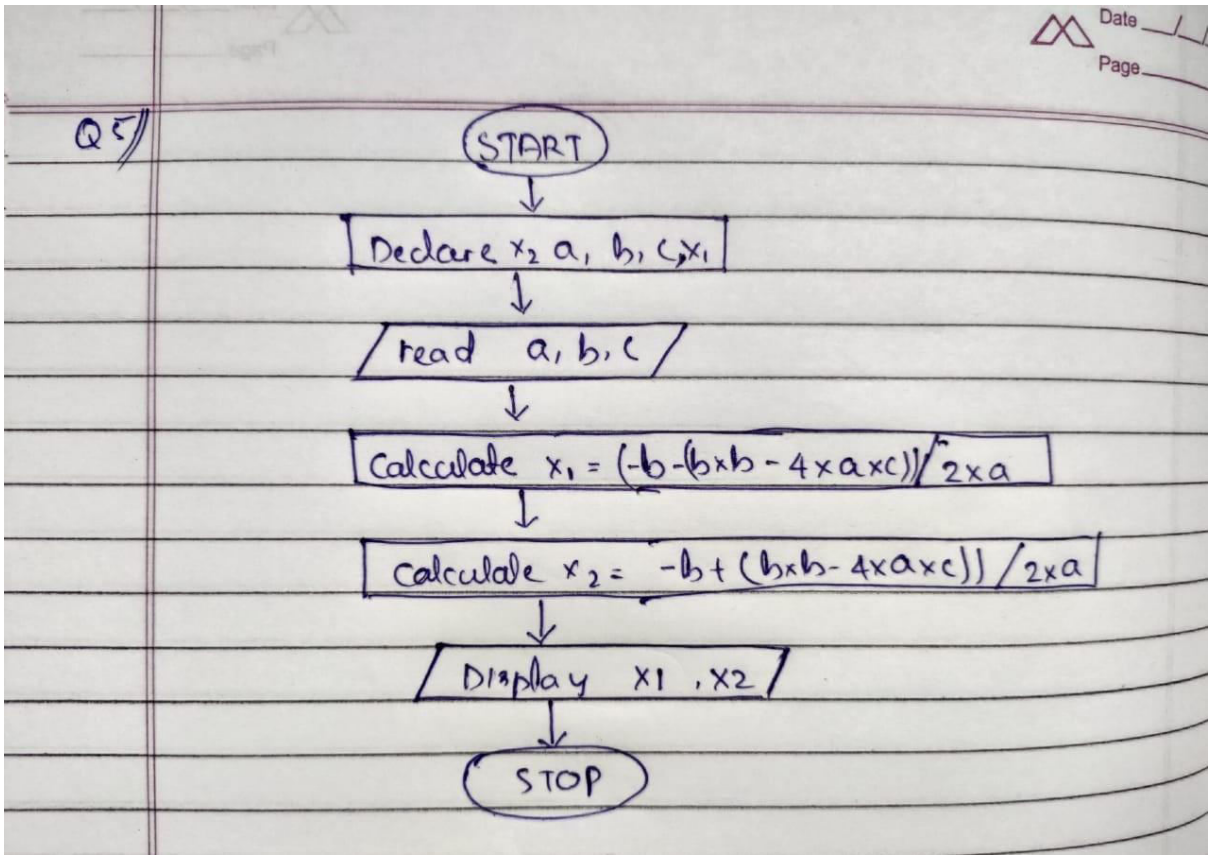
St 3: read a, b, c

St 4: calculate x1=(-b-(b*b-4*a*c))/2*a

St 5: calculate x2=(-b+(b*b-4*a*c))/2*a

St 6: Display x1, x2

St 7: stop



QUESTION NO 6

INPUT-x

OUTPUT-fact

St 1: start

St 2: Declare x, I, fact

St 3: read x

St 4: initialize k=1 and fact=1

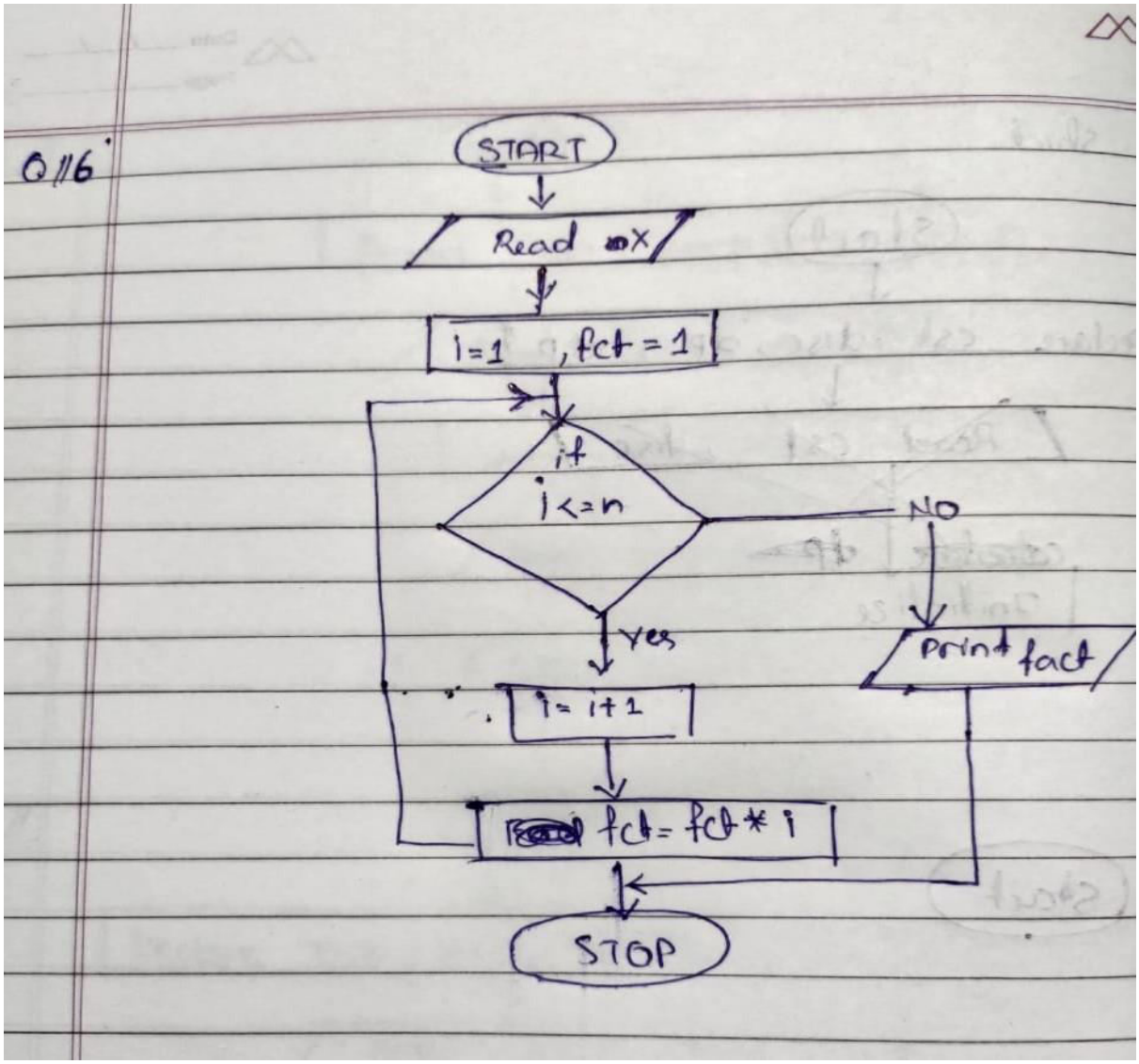
St 5: check if k<=x go to next step and repeat until i=x, else go to step 8

St 6: calculate fact=fact*k

St 7: increment k=k+1

St 8: Display fact

St 9: stop



QUESTION 1

```
#include<stdio.h>
int main()
{
   printf("GIRIJA SHANKAR BHOI-SOA University");
   return 0;
}
```

QUESTION 2

```
#include<stdio.h>
int main()
{
   printf("NAME-GIRIJA SHANKAR BHOI\n");
   printf("PHONE NUM-83XXXX3543\n");
   printf("Email-goodguyguddu1@gmail.com\n");
   return 0;
}
```

QUESTION 3

```
#include<stdio.h>

int main()
{
   int num;
   float f;
   char charVariable;

   printf("Enter integer\n");
   scanf("%d", &num);
   printf("Enter a Decimal number\n");
   scanf("%f", &f);
```

```
    printf("Enter a Character\n");
    scanf("%c", &charVariable);
    printf("\nThe number is %d ", num);
    printf("\nThe fraction is %f", f);
    printf("\nThe character is %c", charVariable);
   return 0;
}
```

QUESTION 4

```
#include<stdio.h>

int main()
{
  int number, cube;
  printf(" Please Enter any number : ");
  scanf("%d", &number);
  cube = number * number * number;
  printf("\n Cube of a given number %d is  =  %d", number, cube);
 return 0;
}
```

QUESTION 5

```
#include <stdio.h>

int main()
{

int x, y, z, a, b, sum;
printf("enter 5 numbers :");
scanf("%d%d%d%d%d",&x,&y,&z,&a,&b);
sum=x+y+z+a+b;
```

```
printf("\n Sum of Three Number is = %d", sum);
return 0;

}
```

QUESTION 6

```
#include <stdio.h>
int main()
{
   int mrk1, mrk2, avg;

   printf("Enter first subject mark: ");
   scanf("%d",&mrk1);
   printf("Enter second subject mark: ");
   scanf("%d",&mrk2);

   avg=(mrk1+mrk2)/2;

   printf("Average of %d and %d is: %d",mrk1,mrk2,avg);

   return 0;
}
```

QUESTION 7

```
#include <stdio.h>
int main()
{
   int isd,rtd,td,x,y,z;
   float chrg;

   printf("Enter issued date, return date,today: ");
```

```
    scanf("%d,%d,%d",&isd,&rtd,&td);
    x=rtd-isd;
    y=td-isd;
    z=y-x;
    chrg=z*0.20;
    printf("total fine to be charged is %.2f :",chrg); //ROUNDED 2 PLACES FOR MONEY CALC
     return 0;
}
```

QUESTION 8

```
#include <stdio.h>
int main()
{
    float disc=0.15, cst=29.00,dp,netp;
    dp=29.00*0.15;
    netp=29.00-dp;
    printf("net price for shirt is %.2f :",netp);\\SAME HERE
     return 0;
}
```

QUESTION 9

```
int main() {
      int x,y,z;
      printf("Enter first number: ");
      scanf("%d", &x);
      printf("Enter second number: ");
      scanf("%d", &y);
      z= x;
      x = y;
      y =z;
```

```
    printf("\nAfter swapping, firstNumber = %d\n",x);
    printf("After swapping, secondNumber = %d",y);
    return 0;
}
```

QUESTION 10

```
#include<stdio.h>
 int main()
{
int a=45, b=70;
printf("Before swap a=%d b=%d",a,b);
a=a+b;
b=a-b;
a=a-b;
printf("\nAfter swap a=%d b=%d",a,b);
return 0;
}
```

QUESTION 1

```
#include<stdio.h>
int main ()
{
int a = 125, b = 12345,e,h,i;
long ax = 1234567890,j,k,l,m;
short s = 4043;
float x = 2.13459,f;
double dx = 1.1415927,g;
char c = 'W';
unsigned long ux = 2541567890;
e=a+c;
printf("a+c=%d",&e);
f=x+c;
printf("\nx+c=%f",&f);
g=dx+x;
printf("\ndx+x=%lf",&g);
h=a+x;
printf("\na+x=%d",&h);
i=s + b;
printf("\ns+b=%d",&i);
j=ax + b;
printf("\nax + b=%ld",&j);
k=s + c;
printf("\ns + c=%ld",&k);
l= ax + c;
printf("\nax+c=%ld",&l);
m= ax + ux;
```

```
printf("\nax + ux=%ld",&m);

}
```

QUESTION 2

```
#include<stdio.h>

 int main ()

{
 int days, yrs,wks;
printf (“enter days “);
scanf (“%d”, &x);
yrs= x/365;
weeks =(x%365)/7
x = x-((yrs*365) +(wks*7));
printf (“years %d”, yrs);
printf (“weeks %d”, wks);
printf (“days %d”, x);
return 0;
}
```

QUESTION 3

```
#include<stdio.h>

int main()

{

float a,b,x,m,n;

printf("Enter first item’s weight:");

scanf("%f”, &a);

printf("enter no purchase");

scanf ("%f",&m);

printf ("Enter second item weight");

scanf ("%f”, &b);

printf ("enter no purchase");

scanf ("%f",&n);

x=(a*m)+(b*n)/2;

printf ("the average value of the items %f”, x);
```

```
return 0;
```

QUESTION 4

```
#include <stdio.h>
int main()
{
enum wk{Sun=1, Mon=2, Tue=3, Wed=4, Thu=5, Fri=6, Sat=7};
printf("Sun = %d", Sun);
printf("\nMon = %d", Mon);
printf("\nTue = %d", Tue);
printf("\nWed = %d", Wed);
printf("\nThu = %d", Thu);
printf("\nFri = %d", Fri);
printf("\nSat = %d", Sat);
return 0;
}
```

QUESTION 5

```
#include <stdio.h>

int main()
{
   float cel, f;
   printf("Enter temperature in Celsius: ");
   scanf("%f", &cel);
   f = (cel*9 / 5) + 32;
   printf("%f Celsius = %f Fahrenheit", cel,f);
   return 0;
}
```

QUESTION 6

```
include<stdio.h>
int main()
{
int minute,hr;
printf("\n\n\tEnter minutes = ");
scanf("%d",&minute);
hr=minute/60;
min=minute%60;
printf("\nnumof hours is = %d hours\n and no of minute is = %d minutes",hr,min);
return 0;
}
```

QUESTION 7

```
#include<stdio.h>
int main()
{
        float w, le, Pe;

        printf ("Enter the Width of the Rectangle  :  ");
        scanf ("%f",&w);
        printf ("Enter the Length of a Rectangle :  ");
        scanf ("%f",&le);
        Perimeter = 2 * (length + width);
        printf("\n Perimeter of the Rectangle is =  %f", Pe);
        return 0;
}
```

QUESTION 8

```
#include <stdio.h>
int main()
{
   int a = 9,b = 4, c;
   c = a+b;
   printf("a+b = %d \n",c);
   c = a/b;
   printf("a/b = %d \n",c);
    c %= a;
   printf("c = %d\n", c);
   printf("%d >= %d is %d \n", a, b, a >= b);
   c = a != b;
   printf("a != b is %d \n",c);
}
```

QUESTION 9

```
#include <stdio.h>
int main()
{
   int a = 9,b = 4, c;
   c=a&b;
   printf("Output = %d", c);
   c=a|b;
   printf("\nOutput = %d", c);
   printf("\nb<<1 = %d\n", b<<1);
   c = (a == b) || (c < b);
   printf("\n(a == b) || (c < b) is %d \n",c);
   c = (a < b) ? a : b;
```

```
    printf("\n%d", c);
}
```

QUESTION 10

```
#include <stdio.h>
int main(){
    int a;
    float b;
    double c;
    char d;
    printf("Size of int: %d bytes\n",sizeof(a));
    printf("Size of float: %d bytes\n",sizeof(b));
    printf("Size of double: %d bytes\n",sizeof(c));
    printf("Size of char: %d byte\n",sizeof(d));
    return 0;
}
```

QUESTION 1

```
#include <stdio.h>

int main()

{

  char ch;

  printf("enter a character\n");

  scanf("%c", &ch);

  if (ch=='a' || ch=='A' || ch=='e' || ch=='E' || ch=='i' || ch=='I' || ch=='o' || ch=='O' || ch== 'u' || ch=='U')

      printf("%c is a vowel.\n", ch);

  else

      printf("%c is a consonant\n", ch);

  return 0;

}
```

QUESTION 2

```
#include <stdio.h>

#include <math.h> /* Used for sqrt() */


int main()

{

    float a, b, c ;

    float root1, root2, img;

    float discriminant;


    printf("Enter values of a, b, c");

    scanf("%f%f%f", &a, &b, &c);

    discriminant = (b * b) - (4 * a * c);

  if(discriminant > 0)

    {

        root1 = (-b + sqrt(discriminant)) / (2*a);

        root2 = (-b - sqrt(discriminant)) / (2*a);
```

```
        printf("Two distinct and real roots exists: %f and %f", root1, root2);
    }
    else if(discriminant == 0)
    {
        root1 = root2 = -b / (2 * a);
        printf("Two equal and real roots exists: %f and %f", root1, root2);
    }
    else if(discriminant < 0)
    {
        root1 = root2 = -b / (2 * a);
        img = sqrt(-discriminant) / (2 * a);
        printf("Two distinct complex roots exists: %f + i%f and %f - i%f",
                root1, img, root2, img);
    }
   return 0;
}
```

QUESTION 3

```
#include <stdio.h>

int main()
{
    int year;
    printf("Enter year : ");
    scanf("%d", &year);
    if(((year % 4 == 0) && (year % 100 !=0)) || (year % 400==0))
    {
        printf("LEAP YEAR");
    }
    else
    {
        printf("COMMON YEAR");
```

```
    }

    return 0;
}
```

QUESTION 4

```
#include<stdio.h>
int main()
{
 int a,b,c,d;
 printf("enter two num");
 scanf("%d%d",&a,&b);
 c=100-a;
 d=100-b;
if (c>d)
  printf("%d is near",b);
else
  printf("%d is near",a);
return 0;
}
```

QUESTION 5

```
#include<stdio.h>

#include <stdbool.h>

int main()

{

 int small,medium,large,num1,num2,num3;

 printf(“Enter three numbers \n”);
```

```
Scanf("%d%d%d",&num1,&num2,&num3);


  If ((num1 < num2) && (num1 < num3))
  {
     Small= num1;
     If (num2 > num3)
     {
        Large= num2;
        medium= num3;
     }
  }
  If ((num1 < num2) && (num3 << num1))
  {
     Small = num1;
     If (num2 < num3)
     {
        Medium = num2;
        Large = num3;
     }
  }
  If ((num1 > num2) && (num3 > num1))
  {
     Medium = num1;
     If (num2 < num3)
     {
        Small = num2;
        Large = num3;
     }
  }
```

```
If ((num1 < num2) && (num3 < num1))
{
   Medium = num1;
   If (num2 > num3)
   {
      Large = num2;
      Small = num3;
   }
}
If ((num1 > num2) && (num1 > num3))
{
   Large = num1;
   If (num3 > num2)
   {
      Medium = num3;
      Small = num2;
   }
}

If ((num1 > num2) && (num1 > num3))
{
   Large = num1;
   If (num2 > num3)
   {
      Medium = num2;
      Small = num3;
   }
}

If ((small – medium ) == (medium – large))
```

```
  Return true;

Else

 Return 0;

}
```

QUESTION 6

```
#include <stdio.h>
int main()
{
   int x;
   float amt, tamt, sc;
   printf("Enter total units consumed: ");
   scanf("%d", &x);
   if(x <= 199)
   {
      amt = x * 1.20;
   }
   else if(x>=200 && x<= 399)
   {
      amt == x * 1.50 ;
   }
   else if(x>=400 && x<= 599)
   {
      amt =x * 1.80 ;
   }
   else
   {
```

```
        amt = x * 2.00;
        sc = amt * 0.20;
        tamt  = amt + sc;
        amt=tamt;
    }
 printf("Electricity Bill = %f" , amt);

    return 0;
}
```

QUESTION 7

```
#include <stdio.h>

int main()
{
    float x,y,z, average;

    printf("Enter marks secured in all 3 subject ");
    scanf("%f", &x,&y,&z);

    average = (x+ y + z)/3;
    if (average >= 90)
    {
        printf("Grade A");
    }
    else if (average >= 80)
    {
        printf("Grade B");
    }
    else if (average >= 70)
    {
```

```
        printf("Grade C");
    }
    else if (average >= 60)
    {
        printf("Grade D");
    }
    else
    {
        printf("Grade F");
    }

    return 0;
}
```

QUESTION 8

```
#include <stdio.h>

int main()
{
    int month;
    printf("Enter month number: ");
    scanf("%d", &month);

    switch(month)
    {
        case 1:
            printf("31 days");
            break;
        case 2:
            printf ("28 days");
```

```
    break;
case 3:
    printf("31 days");
    break;
case 4:
    printf("30 days");
    break;
case 5:
    printf("31 days");
    break;
case 6:
    printf("30 days");
    break;
case 7:
    printf("31 days");
    break;
case 8:
    printf("31 days");
    break;
case 9:
    printf("30 days");
    break;
case 10:
    printf("31 days");
    break;
case 11:
    printf("30 days");
    break;
case 12:
```

```
            printf("31 days");
            break;
        default:
            printf("Invalid input");

    }

    return 0;
}
```

QUESTION 9

```
#include<stdio.h>

int main(void)
{
    int a, b, result;
    char op;
    printf("Enter operatin ");
    scanf("%c",&op);
     printf("Enter two num  ");
    scanf("%d%d", &a, &b);


    switch(op)
    {
        case '+':
            result = a + b;
            break;
```

```
        case '-':
           result = a - b;
           break;
        case '*':
           result = a * b;
           break;
        case '/':
           result = a / b;
           break;
    }

    printf("Result = %d", result);
}
Return 0;
}
```

QUESTION 10

```
#include<stdio.h>
 int main()
{
    char ch;
    printf("enter grade");
    scanf("%c",&ch);
    switch (ch)
    {
       case 'a':
          printf("Excellent");
          break;
       case 'b':
          printf("Good");
```

```
            break;
        case 'c':
            printf("Average");
            break;
        case 'd':
            printf("Deficient");
        case 'f':
            printf("failing ");
            break;
        default:
            printf("invalid ");
    }
    return 0;
}
```

QUESTION 1

```
#include <stdio.h>
void main()
{
   int  j, sum = 0;
   for (j = 1; j <= 10; j++)
   {
      sum = sum + j;
      printf("%d ",j);
   }
   printf("The Sum is : %d", sum);
}
```

QUESTION 2

```
#include <stdio.h>
int main() {
   int n, i=1;
   printf("Enter an integer: ");
   scanf("%d", &n);
   while (i <= 10)
  {
      printf("%d * %d = %d \n", n, i, n * i);
      ++i;
   }
   return 0;
}
```

QUESTION 3

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

```
    int num,i=1, sum = 0;

    printf("Enter a number\n");
    scanf("%d", &num);
    do
    {
      sum = sum +2*i-1;
      i++;
     }
     while(i < num);
    printf("Sum of ODD integer number is %d\n", sum);
    return 0;
}
```

QUESTION 4

```
#include <stdio.h>
void main()
{
  int i,j;
  for(i=1;i<=5;i++)
  {
          for(j=1;j<=i;j++)
            printf("*");
          printf("\n");
  }
}
```

QUESTION 5

```
#include <stdio.h>
void main()
{
```

```
  int i,j,k=1;
  for(i=1;i<5;i++)
  {
        for(j=1;j<=i;j++)
          printf("%d",k++);
        printf("\n");
  }
}
```

QUESTION 6

```
#include <stdio.h>
int main() {
  int i, space, rows, k = 0;
  printf("Enter the number of rows: ");
  scanf("%d", &rows);
  for (i = 1; i <= rows; ++i, k = 0) {
    for (space = 1; space <= rows - i; ++space) {
      printf("  ");
    }
    while (k != 2 * i - 1) {
      printf("* ");
      ++k;
    }
    printf("\n");
  }
  return 0;
}
```

QUESTION 7

```
#include <stdio.h>
```

```
int main() {
  int rows, coef = 1, space, i, j;
  printf("Enter the number of rows: ");
  scanf("%d", &rows);
  for (i = 0; i < rows; i++) {
    for (space = 1; space <= rows - i; space++)
      printf("  ");
    for (j = 0; j <= i; j++) {
      if (j == 0 || i == 0)
        coef = 1;
      else
        coef = coef * (i - j + 1) / j;
      printf("%4d", coef);
    }
    printf("\n");
  }
  return 0;
```

QUESTION 8

```
#include <stdio.h>
int main() {
   int i, n, x = 0, y = 1, nt;
   printf("Enter the num: ");
   scanf("%d", &n);
   printf("Fibonacci Series: ");

   for (i = 1; i <= n; ++i) {
      printf("%d, ", x);
      nt = x + y;
      x = y;
```

```
        y = nt;
    }

    return 0;
}
```

QUESTION 9

```
#include<stdio.h>
void main()
{
    int n, i=1, sum=0;
    printf("\n Enter a number: ");
    scanf("%d", &n);
    while(i<n)
    {
        if(n%i==0)
        {
            sum=sum+i;
        }
        i++;
    }
    if(sum==n)
        printf("\n %d is a Perfect Number.",n);
    else
        printf("\n %d is Not a Perfect Number.",n);
}
```

QUESTION 10

```
#include <stdio.h>

void main(){
```

```
    int num,r,sum,temp;
    int stno,enno;

    printf("Input starting  range: ");
    scanf("%d",&stno);

    printf("Input ending  range : ");
    scanf("%d",&enno);

    printf("Armstrong numbers in given range are: ");
    for(num=stno;num<=enno;num++){
        temp=num;
        sum = 0;

        while(temp!=0){
            r=temp % 10;
            temp=temp/10;
            sum=sum+(r*r*r);
        }
        if(sum==num)
            printf("%d ",num);
    }
printf("\n");
}
```

QUESTION 11

```
#include <stdio.h>
int main() {
    int n, i, flag = 0;
    printf("Enter a num: ");
```

```
    scanf("%d", &n);
    for (i = 2; i <= n / 2; ++i)
    {
        if (n % i == 0) {
            flag = 1;
            break;
        }
    }

    if (n == 1) {
        printf("1 is neither prime nor composite.");
    }
    else {
        if (flag == 0)
            printf("%d is a prime number.", n);
        else
            printf("%d is not a prime number.", n);
    }

    return 0;
}
```

QUESTION 12

```
#include <stdio.h>

void main(){
    int num,r,sum=0,t;
```

```
   printf("Input a number: ");
   scanf("%d",&num);
   t=num;

   do{
      r=num % 10;
      sum=sum*10+r;
      num=num/10;
   }
      while(num!=0);
printf("reverse order : %d \n",sum);
}
```

QUESTION 13

```
#include <stdio.h>

void main()
{   long int n,i,t=9;
          int sum =0;
          printf("enter the number or terms :");
          scanf("%ld",&n);
          for (i=1;i<=n;i++)
          { sum +=t;
            printf("%ld   ",t);
            t=t*10+9;
          }
          printf("\nThe sum of the series = %d \n",sum);
}
```

QUESTION 14

```
#include <stdio.h>
```

```
void main()
{
        float x,sum,t,d;
        int i=1,n;
        printf("Input the Value of x :");
        scanf("%f",&x);
        printf("Input the number of terms : ");
        scanf("%d",&n);
        sum =1; t = 1;
        while (i<n)
        {
          d = (2*i)*(2*i-1);
          t = -t*x*x/d;
          sum =sum+ t;
          i++;
        }
        printf("\nthe sum = %f\nNumber of terms = %d\nvalue of x = %f\n",sum,n,x);
}
```

QUESTION 15

```
#include <stdio.h>
#include <math.h>
void main()
{
        int x,sum,ctr;
        int i=1,n,m,mm,nn;
        printf("Input the value of x :");
        scanf("%d",&x);
        printf("Input number of terms : ");
```

```
        scanf("%d",&n);
        sum =x; m=-1;
        printf("The values of the series: \n");
        printf("%d\n",x);
    do
    {
       ctr = (2 * i + 1);
       mm = pow(x, ctr);
       nn = mm * m;
       printf("%d \n",nn);
       sum = sum + nn;
       m = m * (-1);
       i++;
           }
           while(i < n);
           printf("\nThe sum = %d\n",sum);
}
```

QUESTION 1

```
#include<stdio.h>
int main()
{
  int number, i, sum=0;
  for(i=0;i<=10;i++)
  {
    printf("Enter number: ");
    scanf("%d",&number);
    If ( number<0 )
     break;
    sum =sum+ number;
  }
  printf("Sum=%d",sum);
  return 0;
}
```

QUESTION 2

```
#include<stdio.h>
int main()
{
  int number, i, sum=0;
  for(i=0;i<=10;i++)
  {
    printf("Enter number: ");
    scanf("%d",&number);
    If ( number<0 )
     continue;
    sum =sum+ number;
  }
  printf("Sum=%d",sum);
```

```
  return 0;
}
```

QUESTION 3

```
#include<stdio.h>
int main()
{
  int number, i;
  for(i=0;i <=1;i++)
  {
    printf("Enter a number: ");
     i--;
    scanf("%d",&number);
    if( number==0)
     break;
  }
  printf("you entered 0");
  return 0;
}
```

QUESTION 4

```
#include <stdio.h>
int main() {
    int n, i, flag = 0;
    printf("Enter a positive integer: ");
    scanf("%d", &n);

    for (i = 2; i <= n / 2; ++i)
{
        if (n % i == 0)
       {
            flag = 1;
```

```
            break;
        }
    }

    if (n == 1) {
        printf("1 is neither prime nor composite.");
    }
    else {
        if (flag == 0)
            printf("%d is a prime number.", n);
        else
            printf("%d is not a prime number.", n);
    }

    return 0;
}
```

QUESTION 5

```
#include <stdio.h>
int main()
{
    int i, n, sum;
    for(i=1;i<=10; i=i+2)
    {
        sum =sum+ i;
        if(i>9)
        break;
    }
    printf("Sum of odd numbers = %d", sum);
    return 0;
}
```

QUESTION 6

```
#include <stdio.h>
int main() {
   int n, i, flag = 0;
   printf("Enter a positive integer: ");
   scanf("%d", &n);

   for (i = 2; i <= n / 2; ++i)
{
      if (n % i != 0)
    {
         flag = 1;
         continue;
      }
   }

   if (n == 1) {
      printf("1 is neither prime nor composite.");
   }
   else {
      if (flag == 0)
         printf("%d is a prime number.", n);
      else
         printf("%d is not a prime number.", n);
   }

   return 0;
}
```

QUESTION 7

```
#include <stdio.h>
```

```
int main()
{
   int i, n, sum;
   for(i=0;i<=100; i=i+2)
   {
      sum =sum+ i;
      if(i>99)
      break;
   }
   printf("Sum of even numbers = %d", sum);
   return 0;
}
```

QUESTION 8

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

   int i=1;
   lab:
            printf("%d ",i);
            i++;
            if(i<=10)
                     goto lab;
            return 0;
}
```

QUESTION 9

```
#include<stdio.h>
int main()
{
  int number, i, sum=0,j=1;
```

```
 float avg;
 for(i=0;i<=10;i=i+2)
 {
   printf("Enter number: ");
   scanf("%d",&number);
   j++;
   if ( number<0 )
    break;
   sum =sum+ number;
 }
 avg=sum/j;
 printf("Sum is=%d and averge is =%f",sum,avg);
 return 0;
}
```

QUESTION 10

```
#include <stdio.h>
void main()
{
   int num;

   printf("Enter a number\n");
   scanf("%d", &num);

   if (num % 2 == 0)
      goto even;
   else
      goto odd;
even:
   printf("%d is even\n", num);
```

```
    exit(0);
odd:
    printf("%d is odd\n", num);
}
```

QUESTION 1

```
#include <stdio.h>
void main()
{
  int i,n,a[100];
  printf("Input the number of elements to store in the array :");
  scanf("%d",&n);
  for(i=0;i<n;i++)
    {
          printf("%d place -  : ",i);
          scanf("%d",&a[i]);
          }
  printf("\nThe values store into the array are : \n");
  for(i=0;i<n;i++)
   {
           printf("% 2d",a[i]);
          }
  printf("\n\nThe values store into the array in reverse are :\n");
  for(i=n-1;i>=0;i--)
    {
           printf("% 2d",a[i]);
          }
  printf("\n\n");
}
```

QUESTION 2

```
#include <stdio.h>
void main()
{
```

```
    int a[150];
    int i, n, sum=0;
     printf("Input the number of elements:");
     scanf("%d",&n);
       for(i=0;i<n;i++)
        {
                  printf("%d place  : ",i);
                  scanf("%d",&a[i]);
                }

    for(i=0; i<n; i++)
    {
       sum += a[i];
    }

    printf("Sum of all elements is : %d\n\n", sum);
}
```

QUESTION 3

```
#include <stdio.h>
int main()
{
    int a1[100], a2[100];
    int i, size;
    printf("Enter the size of the array : ");
    scanf("%d", &size);
    printf("Enter elements of source array : ");
    for(i=0; i<size; i++)
    {
       scanf("%d", &a1[i]);
    }
```

```
    for(i=0; i<size; i++)
    {
        a2[i] = a1[i];
    }
    printf("\nElements of source array are : ");
    for(i=0; i<size; i++)
    {
        printf("% 2d\t", a1[i]);
    }
    printf("\nElements of dest array are : ");
    for(i=0; i<size; i++)
    {
        printf("%d\t", a2[i]);
    }

    return 0;
}
```

QUESTION 4

```
#include <stdio.h>
int main()
{
    int arr[150];
    int i, j, size, count = 0;
    printf("Enter size of the array : ");
    scanf("%d", &size);
    printf("Enter elements in array : ");
    for(i=0; i<size; i++)
    {
        scanf("%d", &arr[i]);
```

```
    }

    for(i=0; i<size; i++)
    {
        for(j=i+1; j<size; j++)
        {
            if(arr[i] == arr[j])
            {
                count++;
                break;
            }
        }
    }

    printf("\nTotal number of duplicate elements found in array = %d", count);

    return 0;
```

QUESTION 5

```
int main()
{
    int a[1000],i,n,min,max;
    printf("Enter size of the array : ");
    scanf("%d",&n);
    printf("Enter elements in array : ");
    for(i=0; i<n; i++)
    {
        scanf("%d",&a[i]);
    }

    min=max=a[0];
```

```
   for(i=1; i<n; i++)
   {
      if(min>a[i])
                        min=a[i];
                         if(max<a[i])
                          max=a[i];
   }
    printf("minimum of array is : %d",min);
        printf("\nmaximum of array is : %d",max);
   return 0;
}
```

QUESTION 6

```
#include <stdio.h>

void main()
 {
   int arr1[10], odd[10], even[10];
   int i,j=0,k=0,n;
     printf("Input the number of elements to be stored in the array :");
     scanf("%d",&n);
     for(i=0;i<n;i++)
         {
              printf(" %d place  : ",i);
              scanf("%d",&arr1[i]);
            }

   for(i=0;i<n;i++)
   {
         if (arr1[i]%2 == 0)
         {
```

```
            even[j] = arr1[i];
            j++;
          }
          else
          {
            odd[k] = arr1[i];
            k++;
          }
    }

    printf("\nThe Even elements are : \n");
    for(i=0;i<j;i++)
    {
          printf(" % 2d ",even[i]);
    }

    printf("\nThe Odd elements are :\n");
    for(i=0;i<k;i++)
    {
          printf("% 2d ", odd[i]);
    }
    printf("\n\n");
 }
```

QUESTION 7

```
#include <stdio.h>

void main()
{
   int arr1[100],i,n,p,x;
      printf("Input the size of array : ");
```

```
    scanf("%d", &n);
    for(i=0;i<n;i++)
   {
            printf("%d element  : ",i);
            scanf("%d",&arr1[i]);
           }


  printf("Input the value to be inserted : ");
  scanf("%d",&x);
  printf("Input the Position, where the value to be inserted :");
  scanf("%d",&p);

  printf("The curren array is :\n");
  for(i=0;i<n;i++)
    printf("% 5d",arr1[i]);

  for(i=n;i>=p;i--)
  {
    arr1[i]= arr1[i-1];
  }
    arr1[p-1]=x;
  printf("\n\nAfter Insert the element the new list is :\n");
  for(i=0;i<=n;i++)
    printf("% 5d",arr1[i]);
          printf("\n\n");
}
```

QUESTION 8

```
#include <stdio.h>
```

```
int main()
{
   int array[100], position, i, n;

   printf("Enter number of elements in array\n");
   scanf("%d", &n);

   printf("Enter %d elements\n", n);

   for ( i = 0 ; i < n ; i++ )
   scanf("%d", &array[i]);

   printf("Enter the location where you wish to delete element\n");
   scanf("%d", &position);

   if ( position >= n+1 )
   printf("Deletion not possible.\n");

   else
   {
      for ( i = position - 1 ; i < n - 1 ; i++ )
      array[i] = array[i+1];
   }
      printf("Resultant array is\n");

      for( i = 0 ; i < n - 1 ; i++ )
      printf("% 3d", array[i]);
   }
   return 0;
}
```

QUESTION 9

```
#include <stdio.h>


void main(){
  int arr1[50],n,i,j=0,fst,tnd;
      printf("Input the size of array : ");
      scanf("%d", &n);
      for(i=0;i<n;i++)
       {
                  printf(" %d place : ",i);
                  scanf("%d",&arr1[i]);
                }
   fst=0;
  for(i=0;i<n;i++)
  {
     if(fst<arr1[i])
              {
          fst=arr1[i];
          j = i;
     }
  }
   tnd=0;
  for(i=0;i<n;i++)
  {
    if(i==j)
       {
         i++;
                        i--;
       }
     else
```

```
      {
        if(tnd<arr1[i])
              {
           tnd=arr1[i];
          }
      }
 }

  printf("The Second largest element in the array is :  %d \n\n", tnd);
}
```

QUESTION 10

```
#include <stdio.h>

int getMedian(int ar1[], int ar2[], int n, int m)
{
    int i = 0; /* Current index of input array ar1[] */
    int j = 0; /* Current index of input array ar2[] */
    int count;
    int m1 = -1, m2 = -1;
    if((m + n) % 2 == 1) {
       for (count = 0; count <= (n + m)/2; count++) {
          if(i != n && j != m){
          m1 = (ar1[i] > ar2[j]) ? ar2[j++] : ar1[i++];
          }
          else if(i < n){
          m1 = ar1[i++];
          }
          else{
          m1 = ar2[j++];
```

```
            }
        }
        return m1;
    }

    else {
        for (count = 0; count <= (n + m)/2; count++) {
            m2 = m1;
            if(i != n && j != m){
            m1 = (ar1[i] > ar2[j]) ? ar2[j++] : ar1[i++];
            }
            else if(i < n){
            m1 = ar1[i++];
            }
            else{
            m1 = ar1[j++];
            }
        }
        return (m1 + m2)/2;
    }
}

int main()
{
    int ar1[] = {4, 9, 16, 45};
    int ar2[] = {3, 8, 11, 20};

    int n1 = sizeof(ar1)/sizeof(ar1[0]);
    int n2 = sizeof(ar2)/sizeof(ar2[0]);
    printf("%d", getMedian(ar1, ar2, n1, n2));
    getchar();
```

```
   return 0;
}
```

QUESTION 11

```
#include <stdio.h>

int main()
{
  int m, n, p, q, c, d, k, sum = 0;
  int first[10][10], second[10][10], multiply[10][10];

  printf("Enter number of rows and columns of first matrix\n");
  scanf("%d%d", &m, &n);
  printf("Enter elements of first matrix\n");

  for (c = 0; c < m; c++)
    for (d = 0; d < n; d++)
      scanf("%d", &first[c][d]);

  printf("Enter number of rows and columns of second matrix\n");
  scanf("%d%d", &p, &q);

  if (n != p)
    printf("The multiplication isn't possible.\n");
  else
  {
    printf("Enter elements of second matrix\n");

    for (c = 0; c < p; c++)
      for (d = 0; d < q; d++)
        scanf("%d", &second[c][d]);
```

```
    for (c = 0; c < m; c++) {
      for (d = 0; d < q; d++) {
        for (k = 0; k < p; k++) {
          sum = sum + first[c][k]*second[k][d];
        }

        multiply[c][d] = sum;
        sum = 0;
      }
    }

    printf("Product of the matrices:\n");

    for (c = 0; c < m; c++) {
      for (d = 0; d < q; d++)
        printf("%d\t", multiply[c][d]);

      printf("\n");
    }
  }

  Return 0;
}
```

QUESTION 12

```
include <stdio.h>
int main() {
    int a[10][10], transpose[10][10], r, c, i, j;
    printf("Enter rows and columns: ");
    scanf("%d %d", &r, &c);
```

```
    printf("\nEnter matrix elements:\n");
    for (i = 0; i < r; ++i)
        for (j = 0; j < c; ++j) {
            printf("Enter element a%d%d: ", i + 1, j + 1);
            scanf("%d", &a[i][j]);
        }
    printf("\nEntered matrix: \n");
    for (i = 0; i < r; ++i)
        for (j = 0; j < c; ++j) {
            printf("%d  ", a[i][j]);
            if (j == c - 1)
                printf("\n");
        }
    for (i = 0; i < r; ++i)
        for (j = 0; j < c; ++j) {
            transpose[j][i] = a[i][j];
        }

    printf("\nTranspose of the matrix:\n");
    for (i = 0; i < c; ++i)
        for (j = 0; j < r; ++j) {
            printf("%d  ", transpose[i][j]);
            if (j == r - 1)
                printf("\n");
        }
    return 0;
}
```

Output

QUESTION 13

```
#include <stdio.h>

void main()

  {
    int i,j,arr1[50][50],sum=0,n,m=0;

            printf("Input the size of the square matrix : ");
    scanf("%d", &n);
       m=n;
            printf("Input elements in the first matrix :\n");
     for(i=0;i<n;i++)
      {
         for(j=0;j<n;j++)
         {
                  printf("element - [%d],[%d] : ",i,j);
                  scanf("%d",&arr1[i][j]);
         }
      }
            printf("The matrix is :\n");
            for(i=0;i<n;i++)
            {
              for(j=0;j<n ;j++)
                printf("% 4d",arr1[i][j]);
              printf("\n");
            }

            for(i=0;i<n;i++)
            {
        m=m-1;
              for(j=0;j<n ;j++)
```

```
        {
         if (j==m)
          {
            sum= sum+arr1[i][j];
          }

        }
          }
    printf("Addition of the  left Diagonal elements is :%d\n",sum);
  }
```

QUESTION 14

```
#include <stdio.h>

int main (void)
{
        int a[10][10];
        int i = 0, j = 0, row = 0, col = 0;

        printf ("Enter the order of the matrix (mxn):\n");
        printf ("where m = number of rows; and\n");
        printf ("      n = number of columns\n");
        scanf ("%d %d", &row, &col);

        int flag = 0;

        printf ("Enter the elements of the matrix\n");
        for (i = 0; i < row; i++)
        {
                for (j = 0; j < col; j++)
```

```
        {
                scanf ("%d", &a[i][j]);
        }
}

for (i = 0; i < row; i++)
{
        for (j = 0; j < col; j++)
        {
                if (i == j && a[i][j] != 1)
                {
                        flag = -1;
                        break;
                }
                else if (i != j && a[i][j] != 0)
                {
                        flag = -1;
                        break;
                }
        }
}

if (flag == 0)
{
        printf ("It is a IDENTITY MATRIX\n");
}
else
{
        printf ("It is NOT an identity matrix\n");
}
```

```
        return 0;
}
```

QUESTION 15

```
#include <stdio.h>

int search(int mat[4][4], int n, int x)
{
   if (n == 0)
      return -1;
   int smallest = mat[0][0], largest = mat[n - 1][n - 1];
   if (x < smallest || x > largest)
      return -1;

   int i = 0, j = n - 1;
   while (i < n && j >= 0)
   {
      if (mat[i][j] == x)
      {
         printf("\n Found at %d, %d", i, j);
         return 1;
      }
      if (mat[i][j] > x)
         j--;
      else // if mat[i][j] < x
         i++;
   }

   printf("n Element not found");
   return 0; // if ( i==n || j== -1 )
```

```
}

int main()
{
    int mat[4][4] = {
        { 11, 20, 17, 80 },
        { 15, 35, 35, 45 },
        { 27, 29,72 , 38 },
        { 30, 8, 39, 65 },
    };
    search(mat, 4, 20);
    return 0;
}
```

QUESTION 1

```
#include  <stdio.h>
 int main( )
 {
    char  wd[100], chtr;
    int   i=0;
    printf("enter text \n");
    while(chtr != '\n')
    {
       chtr = getchar();
       wd[i]   = chtr;
       i++;
    }
    printf("\n%s\n", wd);
 }
```

QUESTION 2

```
#include  <stdio.h>
 int main( )
 {
    char  wd[100], chtr;
    int   i=0;
    char st[50];
    printf("enter text \n");
    fgets(st, 50 , stdin);
    puts( st);
 }
```

QUESTION 3

A. UPPERCASE TO LOWER CASE

```
#include <stdio.h>
#include <string.h>
int main()
{
  char str[100];
  printf("enter a string\n");
  gets(str);
  printf("The string in lower case: %s\n", strlwr(str));
  return  0;
}
```

B. LOWERCASE TO UPPER CASE

```
#include <stdio.h>
#include <string.h>
int main()
{
  char str[100];
  printf("enter a string\n");
  gets(str);
  printf("The string in lower case: %s\n", strupr(str));
  return  0;
}
```

B. TOGGLE CASE

```
#include <stdio.h>
#include <string.h>

int main()
{
   char s[1000];
   int i;

   printf("Enter  the string : ");
   gets(s);
```

```
    for(i=0;s[i];i++)
    {
       if(s[i]>=65 && s[i]<=90)
        s[i]+=32;
       else if(s[i]>=97 && s[i]<=122)
        s[i]-=32;
      }
    printf("string in togglecase ='%s'\n",s);

    return 0;
}
```

D.SENTENCE CASE

```
#include <stdio.h>
int firstupper(char str[], int n) {
  int i;
  for(i = 0; i<n; i++) {
    if (i == 0 && str[i] != ' ' || str[i] != ' ' && str[i-1] == ' ') {
      if(str[i] >= 'a' && str[i]<='z') {
        str[i] = (char)(('A'-'a') + str[i] );
      }
    } else if (str[i] >= 'A' && str[i] <= 'Z') {
      str[i] = (char)(str[i] + ('a' - 'A'));
    }
  }
  return 0;
}
int main(int argc, char const *argv[]) {
  char str[] = {"apple is red"};
  int n = sizeof(str);
  firstupper(str, n);
  printf("%s\n", str);
  return 0;
}
```

QUESTION 4

#without using library function

```
#include <stdio.h>
int main() {
 char s1[100] = "people ", s2[] = "are running";
 int l=0, j;
 while (s1[l] != '\0') {
  l++;
 }
```

```
  for (j = 0; s2[j] != '\0'; ++j, ++l) {
    s1[l] = s2[j];
  }
  s1[l] = '\0';

  printf("After concatenation: ");
  puts(s1);

  return 0;
}
```

#with using library function

```
#include <stdio.h>
#include <string.h>

int main()
{
   char a[100], b[100];

   printf("Enter the first string\n");
   gets(a);
   printf("Enter the second string\n");
   gets(b);
   strcat(a,b);
   printf("String obtained on concatenation is %s\n",a);
   return 0;

}
```

QUESTION 5

#using library function

```
#include <stdio.h>

#include <string.h>

int main()

{

  char s[100];

  printf("Enter a string to reverse\n");

  gets(s);

  strrev(s);

  printf("Reverse of the string: %s\n", s);
```

```
  return 0;
}
```

#without using library function

```
#include<stdio.h>
#include<string.h>

int main() {
  char str[100], temp;
  int i, j = 0;
  printf("\nEnter the string :");
  gets(str);
  i = 0;
  j = strlen(str) - 1;
  while (i < j) {
    temp = str[i];
    str[i] = str[j];
    str[j] = temp;
    i++;
    j--;
  }

  printf("\nReverse string is :%s", str);
  return (0);
}
```

QUESTION 6

#without using function

```
#include <stdio.h>
void main()
```

```
{
  char str1[100], str2[100];
  int m,n, i = 0;
     printf("Input the string : ");
     fgets(str1, 100, stdin);

  printf("Input  start position :");
  scanf("%d", &m);

  printf("Input the length of substring :");
  scanf("%d", &n);

  while (i < n)
  {
    str2[i] = str1[m+i-1];
    i++;
  }
  str2[i] = '\0';
  printf("substring is %s", str2);

}
```

#with using function

```
#include<stdio.h>
#include<string.h>

int main()
{
  char str[50] = "ATTACK ON TITAN";
```

```
  printf("The given string is =%s\n",str);
  printf("After reversing string is =%s",strrev(str));
  return 0;
}
```

QUESTION 7

#WITHOUT USING FUNCTION

```
#include<stdio.h>
void main()
{
char strng1[50], strng2[50]; int i;
printf("Enter a string\n");
scanf("%s", strng2);
for(i=0; strng2[i]!='\0'; i++)
{
 strng1[i]=strng2[i];
}
strng1[i]='\0';
printf("\n");
printf("after copy:%s\n", strng1);
printf("number of charcters copied = %d\n", i);

}
```

#WITH USING FUNCTION

```
#include<stdio.h>
void main()
{
int a;
char strng1[50], strng2[50]; int i;
printf("Enter a string\n");
```

```
scanf("%s", strng2);
for(i=0; strng2[i]!='\0'; i++)
{
 strng1[i]=strng2[i];
}
strng1[i]='\0';
printf("\n");
printf("after copy:%s\n", strng1);
a=strlen(strng2);
printf("number of charcters copied = %d\n", a);

}
```

QUESTION 8

```
#include <stdio.h>
#include <string.h>
int main()
{
char a[100], b[100];

printf("Enter the string : ");
gets(a);
strcpy(b, a);
strrev(b);
if (a == b)
printf("The string is a palindrome\n");
else
printf("The string is not t a palindrome\n");

return 0;
}
```

QUESTION 9

```
#include <string.h>


int main()
{
   char s[1000],w[1000];
   int n,a[1000],i,j,k=0,l,found=0,t=0;


   printf("Enter  the string : ");
   gets(s);
   printf("Enter word to be searched: ");
   gets(w);
   for(i=0;s[i];i++)
   {
         if(s[i]==' ')
         {
               a[k++]=i;
               }
         }
         a[k++]=i;
         j=0;
         for(i=0;i<k;i++)
         {
               n=a[i]-j;
               if(n==strlen(w))
               {
                     t=0;
                     for(l=0;w[l];l++)
                     {
                           if(s[l+j]==w[l])
```

```
                    {
                        t++;
                    }
                }
                if(t==strlen(w))
              {
                    found++;

              }
            }

            j=a[i]+1;
        }

         printf("word '%s' is occurred count=%d ",w,found);


}
```

QUESTION 10

```
#include"stdio.h"
#include"string.h"

void main()
{
char str[20], k;
int i, j;

printf("Enter a string: \n");
scanf("%s", str);
for(i=0; str[i] != '\0'; i++)
```

```
{
for(j=i+1; str[j] != '\0'; j++)
{
if(str[i] > str[j])
{
   k= str[i];
  str[i] = str[j];
   str[j] = k;

  }
 }
}
printf("%s", str);
printf("\n");
}
```

QUESTION 11

```
#include <stdio.h>
#include <string.h>

int main()
{
    int i, t, j, len;
    char str[100];
    printf("Enter a string : " );
    scanf("%s" , str);
    len = strlen(str);
    str[len] = '\0';
    for (t = 0, i = 0; i < strlen(str); i++)
    {
        if ((str[i] == ' ') && (str[i - 1] == 's'))
```

```
        {
            for (j = t; j < i; j++)
                printf("%c" , str[j]);
            t = i + 1;
            printf("\n" );
        }
        else
        {
            if (str[i] == ' ')
            {
                t = i + 1;
            }
        }
    }
    return 0;
}
```

QUESTION 12

```
#include <stdio.h>
#include <string.h>
int main()
{
        char str[100];
        int i, j, k;

        printf("\n Please Enter any String :  ");
        gets(str);

        for(i = 0; i < strlen(str); i++)
        {
                for(j = i + 1; str[j] != '\0'; j++)
```

```
                {
                        if(str[j] == str[i])
                        {
                                for(k = j; str[k] != '\0'; k++)
                                {
                                        str[k] = str[k + 1];
                                }
                        }
                }
        }

        printf("\n The Final String a = %s ", str);

        return 0;
}
```

a) Functions without arguments and without return type
check whether the year is Leap year

```
#include <stdio.h>



void lpyr()
{
    int year;
   printf("Enter a year: ");
   scanf("%d", &year);


   if (year % 400 == 0) {
      printf("%d is a leap year.", year);
   }

   else if (year % 100 == 0) {
      printf("%d is not a leap year.", year);
   }

   else if (year % 4 == 0) {
      printf("%d is a leap year.", year);
   }

   else {
      printf("%d is not a leap year.", year);
   }



}
void main()
{

   lpyr();

}
```

==========

OUTPUT:-

```
Enter a year: 2020
2020 is a leap year.
```

d) Functions with arguments and with return type
count number of digits in a number

```
#include <stdio.h>
int main()
{
    int num;
    int count=0;
```

```
        printf("Enter a number");
        scanf("%d",&num);
       count=func(num);
       printf("Number of digits is : %d", count);

        return 0;
    }
    int func(int n)
    {
        int cnt=0;
        while(n!=0)
        {
            n=n/10;
            cnt++;
        }
        return cnt;
    }
============================
```

OUTPUT

```
Enter a number487546
Number of digits is : 6
```

g) Recursive Functions
to convert a decimal number to binary

```
    #include <stdio.h>
    int main()
{
    int dnum ;
    printf("enter the decimal number to be converted to binary less than
1024 " );
    scanf("%d",&dnum);
     printf("%d", find(dnum));
    return 0;
}
   int find(int dnum)
{
    if (dnum == 0)
        return 0;
    else
        return (dnum % 2 + 10 * find(dnum / 2));
}
```

```
============================
```

OUTPUT

```
enter the decimal number to be converted to binary less than 1024 45
101101
```

j) Passing Strings in Function
to read a string and prints if it is a palindrome or not.

```
#include <string.h>
#include<stdio.h>
```

```
void main()
{

    char s[1000];

    printf("Enter  the string: ");
    gets(s);


    if(chk(s))
          printf("string is palindrome");
    else
        printf("string is not palindrome");



}
int chk(char *s)
{
    int i,c=0,n;
    n=strlen(s);
      for(i=0;i<n/2;i++)
    {
      if(s[i]==s[n-i-1])
      c++;

      }
      if(c==i)
        return 1;
    else
        return 0;



 }
```

==========

OUTPUT

```
Enter  the string: doe         testt   tset
string is palindrome
```