Q1)Print HELLO on screen.

Ans)

```
#include<stdio.h>
void main()
{
Printf(“HELLO”);

}
```

Q2)Calculate the sum of 2 no.

Ans)

```
#include <stdio.h>
Void main()
{
Int a,b,sum;
Printf(“\n Enter the two numbers:”);
Scanf(“%d%d”,&a,&b);
Sum=a+b;
Printf(“Sum is: %d”,sum);
}
```

Q3)Calculate the difference of 2 no.

Ans)

```
#include <stdio.h>
Void main()
{
Int a,b,diff;
Printf(“Enter the two numbers:\n:”);
Scanf(“%d %d”,&a,&b);
Diff=a-b;
Printf(“Difference:%d”,diff);
}
```

Q4)Calculate the product of 2 no.

```
#include <stdio.h>
void main()
{
Int a,b,mult;
Printf(“\nEnter the values of 2 numbers:”);
Scanf(“%d %d”,,&a,&b);
Mult=a*b;
Printf(“mult: %d”,mult);

}
```

Q5)Calculate the division of no.

Ans)

```
#include <stdio.h>
Void main()
{
Int a,b,div;
```

```
Printf(“\nEnter the values of 2 numbers:”);
Scanf(“%d %d”,&a,&b);
Div=a/b;
Printf(“div: %d”,div);
}
```

Q6)Calculate average the given no.

Ans)

```
#include <stdio.h>
Void main()
{
Int a,b,avr;
Printf(“\n Enter the values of 2 numbers:”);
Scanf(“%d %d”,&a,&b);
Avr=(a+b)/2;
Printf(“average: %d”,avr);
}
```

Q7)Combine all above 5 arithmetic operations in one program.

Ans)

```
#include <stdio.h>
Void main()
{
   Int num1, num2;
   Int sum, sub, mult;
   Float div, average;
```

```
   Printf(“Input any two numbers separated by comma : “);
   Scanf(“%d,%d”, &num1, &num2);


   Sum = num1 + num2;
   Sub = num1 – num2;
   Mult = num1 * num2;
   Div = (float)num1 / num2;
  Average =(num1+num2)/2.0;
   Printf(“The sum of the given numbers : %d\n”, sum);
   Printf(“The difference of the given numbers : %d\n”, sub);
   Printf(“The product of the given numbers : %d\n”, mult);
   Printf(“The quotient of the given numbers : %f\n”, div);
   Printf(“the average of the given numbers: %f”,average);

   Return 0;
}
```

Q8)Print ASCII value of char input.

```
#include <stdio.h>
Void main()
{
Char ch;
Printf(“Enter a character”);
Scanf(“%c”,&ch);
Printf(“\n The ASCII value of the ch variable is : %d”, ch);

}
```

Q9)Demonstrate the working of \n \r and \t.

```
#include <stdio.h>
void main()
{
   Printf(“Good \n Morning”);
   Printf(“Good \t Morning”);
   Printf(“Good \r Morning”);
}
```

Q10)Find quotient and reminder,input 2 no.

```
#include <stdio.h>
Void main() {
   Int dividend, divisor, quotient, remainder;
   Printf(“Enter dividend: “);
   Scanf(“%d”, &dividend);
   Printf(“Enter divisor: “);
   Scanf(“%d”, &divisor);
   Quotient = dividend / divisor;
   Remainder = dividend % divisor;
   Printf(“Quotient = %d\n”, quotient);
   Printf(“Remainder = %d”, remainder);

}
```

Q11)find area and perimeter of circle.

```
#include<stdio.h>

Int main()
```

```
{
  Int rad;
  Float PI = 3.14, area, ci;
  Printf("\nEnter radius of circle: ");
  Scanf("%d", &rad);
  Area = PI * rad * rad;
  Printf("\nArea of circle : %f ", area);
  Ci = 2 * PI * rad;
  Printf("\nCircumference : %f ", ci);
  Return (0);
}
```

Q12)Find area of rectangle

```
#include <stdio.h>
Void main()
{
 Double a, b, area;

 Printf("Enter 2 adjacent sides of a rectangle\n");
 Scanf("%lf%lf", &a, &b);
 Area = 2( a+b) ;
 Printf("Area of the rectangle= %2lf\n", area);
}
```

Q13)Swap two no. using third variables.

```
#include <stdio.h>
Int main()
{
Int var1, var2, temp;
Printf("Enter two integersn");
```

```
Scanf(“%d%d”, &var1, &var2);
Printf(“Before SwappingnFirst variable = %d \nSecond variable = %d \n”, var1, var2);
Temp = var1;
Var1 = var2;
Var2 = temp;
Printf(“After SwappingnFirst variable = %d \nSecond variable = %d \n”, var1, var2);
Return 0;
}
```

Q14)Swap two no. without usind third no.

```
#include <stdio.h>
Int main()
{
Int var1, var2, temp;
Printf(“Enter two integersn”);
Scanf(“%d%d”, &var1, &var2);
Printf(“Before SwappingnFirst variable = %d \nSecond variable = %d \n”, var1, var2);
Var1 = var1 + var2;
Var2 = var1 – var2;
Var1 = var1 – var2;
Printf(“After SwappingnFirst variable = %d \nSecond variable = %d \n”, var1, var2);
Return 0;
}
```

Q15)Caculate simple interest and compound interest.

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

```
Int main()
{
        Float p, t, r, si, ci;

        Printf(“Enter principal amount (p): “);
        Scanf(“%f”, &p);
        Printf(“Enter time in year (t): “);
        Scanf(“%f”, &t);
        Printf(“Enter rate in percent ®: “);
        Scanf(“%f”, &r);
        Si = (p * t * r)/100.0;
    Ci = p * (pow(1+r/100, t) – 1);

        Printf(“Simple Interest = %0.3f\n”, si);
        Printf(“Compound Interest = %0.3f”, ci);
        Getch();
        Return(0);
}
```

Q16)Convert temperature farhenite to celsius.

```
#include<stdio.h>
Int main()
{
 Float Fahrenheit, Celsius;
Fahrenheit = 64;
Celsius = ((Fahrenheit-32)*5)/9;
Printf(“\n\n Temperature in Celsius is : %f”,Celsius);
Return (0);
}
```

Q17)calculate gross salery of person.

```
#include<stdio.h>

Int main() {
  Int gross_salary, basic, da, ta;

  Printf(“Enter basic salary : “);
  Scanf(“%d”, &basic);

  Da = (10 * basic) / 100;
  Ta = (12 * basic) / 100;

  Gross_salary = basic + da + ta;

  Printf(“\nGross salary : %d”, gross_salary);
  Return (0);
}
```

Q18)Calculate the distance between two cities in Km and change it into meters, feets and inches.

```
#include <stdio.h>

Int main()
{

   Int distance;
   Float meter;
   Float feet;
   Float inches;
```

```
    Float centimeter;


    Printf(“Enter the distance between Gwalior and Delhi (in KM): “);
    Scanf(“%d”, &distance);


    Meter = distance * 1000;
    Feet = distance * 3280.84;
    Inches = distance * 39370.1;
    Centimeter = distance * 100000;


    Printf(“Meter = %f\n”, meter);
    Printf(“Feet = %f\n”, feet);
    Printf(“Inches = %f\n”, inches);
    Printf(“Centimeters = %f\n”, centimeter);

    Return 0;
}
```

Q19)Calculate agrigates of students marks.

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

Void main(){

Int m1,m2,m3,m4,m5,total;
Float average, percentage;
```

```
Printf(“Enter marks for subject one – “);
Scanf(“%d”,&m1);
Printf(“Enter marks for subject two – “);
Scanf(“%d”,&m2);
Printf(“Enter marks for subject three – “);
Scanf(“%d”,&m3);
Printf(“Enter marks for subject four – “);
Scanf(“%d”,&m4);
Printf(“Enter marks for subject five – “);
Scanf(“%d”,&m5);
Total=m1+m2+m3+m4+m5;
Average=total/5;
Percentage=(total*100)/500;
Printf(“\nThe average of five subjects is %f”,average);
Printf(“\nPercentage=%f%%”,percentage);
Getch();
}
```

Q20)Calculate the sum of first and last digits of given four digit of a given 4 bit number.

```
#include <stdio.h>
Int main()
{
   Int n, sum=0, firstDigit, lastDigit;
   Printf(“Enter number to find sum of first and last digit = “);
   Scanf(“%d”, &n);

   lastDigit = n % 10;

   while(n >= 10)
```

```
    {
        N = n / 10;
    }
    firstDigit = n;

    sum = firstDigit + lastDigit;
    printf("Sum of first and last digit = %d", sum);
    return 0;
}
```

Q21)Demo of constant using #define.

```
#include<stdio.h>
#define val 10
#define floatVal 4.5
#define charVal 'G'



Int main()
{

    Printf("Integer Constant: %d\n",val);

    Printf("Floating point Constant: %.1f\n",floatVal);

    Printf("Character Constant: %c\n",charVal);
```

```
   Return 0;
}
```

Q22)Demo of constant keyword.

```
#include <stdio.h>
Int main() {
  Int a;
  Const int b = 12;
  Printf(“The default value of variable a : %d”, a);
  Printf(“\nThe value of variable b : %d”, b);
  Return 0;
}
```

Q23)Demo of enumberated data type.

```
#include<stdio.h>



Enum year{Jan, Feb, Mar, Apr, May, Jun, Jul,

        Aug, Sep, Oct, Nov, Dec};



Int main()
{

  Int I;
```

```
  For (i=Jan; i<=Dec; i++)

    Printf("%d ", i);



  Return 0;
}
```

Q24)Program to separate decimal and integer part of given floating point number.

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

Int main()
{
   Float f, t;
   Int I;
   Printf("Enter a floating number: ");
   Scanf("%f", &f);
   I = (int)f;
   Printf("Integer part    :%d\n", i);
   T = f-I;
   Printf("Fractional part :%f", t);
   Return 0;
}
```

QUESTIONS(DECISION MAKING AND BRANCHING):

Q25)Program to check even and odd.

```
#include <stdio.h>
Int main()
 {
   Int num;
   Printf(“Enter an integer: “);
   Scanf(“%d”, &num);


   If(num % 2 == 0)
      Printf(“%d is even.”, num);
   Else
      Printf(“%d is odd.”, num);

   Return 0;
}
```

Q26)To find absolute value of given number.

```
#include <stdio.h>
#include <stdlib.h>
Int main()
{
  Int m = abs(200);
  Int n = abs(-400);

  Printf(“Absolute value of m = %d\n”, m);
  Printf(“Absolute value of n = %d \n”,n);
  Return 0;
}
```

Q27)To check whether the number is positive or negative.

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

   Printf(“Input a number :”);
   Scanf(“%d”, &num);
   If (num >= 0)
      Printf(“%d is a positive number \n”, num);
   Else
      Printf(“%d is a negative number \n”, num);
}
```

Q28)To find maximum of two numbers.

```
#include <stdio.h>

Int main()
{
   Int num1, num2;


   Printf(“Enter two numbers: “);
   Scanf(“%d%d”, &num1, &num2);


   If(num1 > num2)
   {
```

```
    Printf(“%d is maximum”, num1);
  }


  If(num2 > num1)
  {
    Printf(“%d is maximum”, num2);
  }


  If(num1 == num2)
  {
    Printf(“Both are equal”);
  }

  Return 0;
}
```

Q29)To find maximum of three numbers.

```
#include <stdio.h>
 Int main()
{
  Int num1, num2, num3;

  Printf(“Enter the values of num1, num2 and num3\n”);
  Scanf(“%d %d %d”, &num1, &num2, &num3);
  Printf(“num1 = %d\tnum2 = %d\tnum3 = %d\n”, num1, num2, num3);
  If (num1 > num2)
  {
```

```
      If (num1 > num3)
      {
         Printf("num1 is the greatest among three \n");
      }
      Else
      {
         Printf("num3 is the greatest among three \n");
      }
   }
   Else if (num2 > num3)
      Printf("num2 is the greatest among three \n");
   Else
      Printf("num3 is the greatest among three \n");
}
```

Q30)To find the profit and loss if selling n cost price is given.

```
#include<stdio.h>

Int main()
{
   Int cp, sp;

   Printf("Enter the cost price of the product\n");
   Scanf("%d", &cp);

   Printf("Enter the selling price of the product\n");
   Scanf("%d", &sp);

   If(sp > cp)
```

```
  {
     Printf(“Your profit is %d\n”, (sp-cp));
  }
  Else if(cp > sp)
  {
     Printf(“Loss Incurred is %d\n”, (cp-sp));
  }
  Else
  {
     Printf(“Neither profit, nor loss\n”);
  }

  Return 0;
}
```

Q31)to check whether the year is leap or not.

```
#include <stdio.h>
Int main()
 {
  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);
  }

  Return 0;
}
```

Q32)To calculate the electricity bill when the condition of meter reading are: units less than 100~2.25, 100-200 ~ 3.00, 200-500~4.25 and

Above 7.00Rs.

```
#include <stdio.h>

Int main()
{
   Int unit;
   Float amt, total_amt, sur_charge;

   Printf(“Enter total units consumed: “);
```

```
   Scanf("%d", &unit);



   If(unit <= 100)
   {
      Amt = unit * 2.25;
   }
   Else if(unit <= 200)
   {
      Amt = 25 + ((unit-100) * 3.00);
   }
   Else if(unit <= 500)
   {
      Amt = 100 + ((unit-200) * 4.25);
   }
   Else
   {
      Amt = 220 + ((unit-500) * 7.00);
}



   Printf("Electricity Bill = Rs. %.2f",amt);


   Return 0;
}
```

Q33)To find roots of a quadratic equation.

```
#include<math.h>
#include <stdio.h>
Int main()
{
   Double a, b, c, discriminant, root1, root2, realPart, imagPart;
   Printf("Enter coefficients a, b and c: ");
   Scanf("%lf %lf %lf", &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("root1 = %.2lf and root2 = %.2lf", root1, root2);
   }


   Else if (discriminant == 0)
{
      Root1 = root2 = -b / (2 * a);
      Printf("root1 = root2 = %.2lf;", root1);
   }


   Else
{
      realPart = -b / (2 * a);
```

```
        imagPart = sqrt(-discriminant) / (2 * a);
        printf("root1 = %.2lf+%.2lfi and root2 = %.2f-%.2fi", realPart, imagPart, realPart, imagPart);
    }
}
```

Q34)Check whether a given character is alphabet/ digit/ vowel/ consonant/ special character.

```
#include <stdio.h>

Int main()
{
    Char ch;

    /* Input character from user */
    Printf("Enter any character: ");
    Scanf("%c", &ch);


    /* Alphabet check */
    If((ch >= 'a' && ch <= 'z') || (ch >= 'A' && ch <= 'Z'))
    {
        Printf("'%c' is alphabet.", ch);
    }
    Else if(ch >= '0' && ch <= '9')
    {
        Printf("'%c' is digit.", ch);
    }
    Else
    {
        Printf("'%c' is special character.", ch);
```

```
    }

    Return 0;
}
```

Q35)Perform arithmetic operations (addition/ subtraction/ multiplication/ division) on two given numbers according to user's choice.

```
#include <stdio.h>
Int main()
{
  Int first, second, add, subtract, multiply;
  Float divide;

  Printf("Enter two integers\n");
  Scanf("%d%d", &first, &second);

  Add = first + second;
  Subtract = first – second;
  Multiply = first * second;
  Divide = first / (float)second;

  Printf("Sum = %d\n", add);
  Printf("Difference = %d\n", subtract);
  Printf("Multiplication = %d\n", multiply);
  Printf("Division = %.2f\n", divide);

  Return 0;
}
```

Q36)To find the day of the week given input for 1-7.

```
#include <stdio.h>

Int main()
{
   Int week;


   Printf(“Enter week number (1-7): “);
   Scanf(“%d”, &week);


   If(week == 1)
   {
      Printf(“Monday”);
   }
   Else if(week == 2)
   {
      Printf(“Tuesday”);
   }
   Else if(week == 3)
   {
      Printf(“Wednesday”);
   }
   Else if(week == 4)
   {
      Printf(“Thursday”);
   }
   Else if(week == 5)
```

```
    {
        Printf(“Friday”);
    }
    Else if(week == 6)
    {
        Printf(“Saturday”);
    }
    Else if(week == 7)
    {
        Printf(“Sunday”);
    }
    Else
    {
        Printf(“Invalid Input! Please enter week number between 1-7.”);
    }

    Return 0;
}
```

Q37)Mini calculator that performs action on char bit input like +,-,*,/.

```
#include <stdio.h>

Int main()
{
        Char Operator;
        Float num1, num2, result = 0;

        Printf(“\n Please Enter an Operator (+, -, *, /)  :  “);
        Scanf(“%c”, &Operator);
```

```
        Printf("\n Please Enter the Values for two Operands: num1 and num2  :  ");
        Scanf("%f%f", &num1, &num2);

        Switch(Operator)
        {
                Case '+':
                        Result = num1 + num2;
                        Break;
                Case '-':
                        Result = num1 – num2;
                        Break;
                Case '*':
                        Result = num1 * num2;
                        Break;
                Case '/':
                        Result = num1 / num2;
                        Break;
                Default:
                        Printf("\n You have enetered an Invalid Operator ");

        }

        Printf("\n The result of %.2f %c %.2f  = %.2f", num1, Operator, num2, result);

        Return 0;
}
```

QUESTION(LOOPING):

Q38)Generation of table according to given input.

```
#include <stdio.h>

Int main()
{
   Int I, num;



   Printf(“Enter number to print table: “);
   Scanf(“%d”, &num);

   For(i=1; i<=10; i++)
   {
      Printf(“%d * %d = %d\n”, num, I, (num*i));
   }

   Return 0;
}
```

Q39)To find the factorial of a given number.

```
#include <stdio.h>
Int main()
{
   Int n, I;
   Unsigned long long fact = 1;
   Printf(“Enter an integer: “);
   Scanf(“%d”, &n);
```

```
   If (n < 0)
      Printf("Error! Factorial of a negative number doesn't exist.");
   Else
         {
      For (I = 1; I <= n; ++i)
                  {
         Fact *= I;
      }
      Printf("Factorial of %d = %llu", n, fact);
   }

   Return 0;
}
```

Q40)To check whether the given number is prime/ armstrong/ perfect/ palindrome.

```
#include <stdio.h>
#include <math.h>
Int isPrime(int num);
Int isArmstrong(int num);
Int isPerfect(int num);
Int main()
{
   Int num;
    Printf("Enter any number: ");
   Scanf("%d", &num);
    If(isPrime(num))
   {
```

```
    Printf("%d is Prime number.\n", num);
  }
  Else
  {
    Printf("%d is not Prime number.\n", num);
  }
  If(isArmstrong(num))
  {
    Printf("%d is Armstrong number.\n", num);
  }
  Else
  {
    Printf("%d is not Armstrong number.\n", num);
  }

  If(isPerfect(num))
  {
    Printf("%d is Perfect number.\n", num);
  }
  Else
  {
    Printf("%d is not Perfect number.\n", num);
  }

  Return 0;
}
```

Q41)To display all prime no. in a given range.

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

```
#include <stdlib.h>

Int main()
{
   Int num1, num2, I, j, flag, temp, count = 0;

   Printf(“Enter the value of num1 and num2 \n”);
   Scanf(“%d %d”, &num1, &num2);
   If (num2 < 2)
   {
      Printf(“There are no primes upto %d\n”, num2);
      Exit(0);
   }
   Printf(“Prime numbers are \n”);
   Temp = num1;
   If ( num1 % 2 == 0)
   {
      Num1++;
   }
   For (I = num1; I <= num2; I = I + 2)
   {
      Flag = 0;
      For (j = 2; j <= I / 2; j++)
      {
         If ((I % j) == 0)
         {
            Flag = 1;
            Break;
         }
```

```
        }
        If (flag == 0)
        {
            Printf("%d\n", i);
            Count++;
        }
    }
    Printf("Number of primes between %d & %d = %d\n", temp, num2, count);
}
```

Q42)To find reverse of a given no.

```
 #include <stdio.h>
Int main()
{
    Int n, rev = 0, remainder;
    Printf("Enter an integer: ");
    Scanf("%d", &n);
    While (n != 0)
 {
        Remainder = n % 10;
        Rev = rev * 10 + remainder;
        N /= 10;
    }
    Printf("Reversed number = %d", rev);
    Return 0;
}
```

Q43)Compute series 1+2+3+….

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

```
 Int main()
{
   Int I,N,sum;
    Printf(“Enter the value of N: “);
   Scanf(“%d”,&N);
    Sum=0;
   For(i=1;i<=N;i++)
      Sum= sum+ I;
    Printf(“Sum of the series is: %d\n”,sum);
     Return 0;
}
```

Q44)Compute the series 1!+2!+3!+…

```
#include <stdio.h>

Double sumseries(double);

Main()
{
   Double number,sum;
   Printf(“\n Enter the value:  “);
   Scanf(“%lf”, &number);
   Sum = sumseries(number);
   Printf(“\n Sum of the above series = %lf “, sum);
}

Double sumseries(double m)
{
   Double sum2 = 0, f = 1, I;
```

```
   For (I = 1; I <= m; i++)
   {
      F = f * I;
      Sum2 = sum2 +(I / f);
   }
   Return(sum2);
}
```

Q45)Compute the series 1^2+2^2+3^2+4^2…..

```
#include<stdio.h>
Int main()
{
        Int n,I;
        Int sum=0;
        Printf(“Enter the n i.e. max values of series: “);
        Scanf(“%d”,&n);
        Sum = (n * (n + 1) * (2 * n + 1 )) / 6;
        Printf(“Sum of the series : “);
        For (I =1;i<=n;i++) {
                If (I != n)
                        Printf(“%d^2 + “,i); else
                        Printf(“%d^2 = %d “,I,sum);
        }
        Return 0;
}
```

Q46)find the reverse of a given no.

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

```
{
   Int n, rev = 0, remainder;
   Printf(“Enter an integer: “);
   Scanf(“%d”, &n);
   While (n != 0)
           {
      Remainder = n % 10;
      Rev = rev * 10 + remainder;
      N /= 10;
   }
   Printf(“Reversed number = %d”, rev);
   Return 0;
}
```

Q47)Find the HCF and LCM of two given no.

```
#include <stdio.h>
Int main()
 {
  Int a, b, x, y, t, gcd, lcm;

  Printf(“Enter two integers\n”);
  Scanf(“%d%d”, &x, &y);

  A = x;
  B = y;

  While (b != 0)
   {
    T = b;
```

```
  B = a % b;
  A = t;
 }

 Gcd = a;
 Lcm = (x*y)/gcd;

 Printf("Greatest common divisor of %d and %d = %d\n", x, y, gcd);
 Printf("Least common multiple of %d and %d = %d\n", x, y, lcm);

 Return 0;
}
```

Q48)Find GCD of given number.

```
#include <stdio.h>
Int main()
{
   Int n1, n2, I, gcd;
   Printf("Enter two integers: ");
   Scanf("%d %d", &n1, &n2);
   For(i=1; I <= n1 && I <= n2; ++i)
   {
      If(n1%i==0 && n2%i==0)
         Gcd = I;
   }
   Printf("G.C.D of %d and %d is %d", n1, n2, gcd);
   Return 0;
}
```

Q49)Draw paterns :given bellow withs its mirror and reverse order-

1

12

123

1234 [N=4]

```
#include <stdio.h>

Int main()
{
   Int I, j, N;

   Printf(“Enter N: “);
   Scanf(“%d”, &N);

   For(i=1; i<=N; i++)
   {

      For(j=1; j<=I; j++)
      {
         Printf(“%d”, j);
      }

      Printf(“\n”);
   }

   Return 0;
}
```

1

22

333

4444 [N=4]

```
#include<stdio.h>
#include<conio.h>
Int main()
{
 Int I,j,n;

 Printf(“\n Enter the value of n:”);
 Scanf(“%d”,&n);
 For(i=0;i<=n;i++)
 {
  For(j=1;j<=I;j++)
  {
 Printf(“%d”,i);
  }
 Printf(“\n”);
 }
Getch();
}
```

```
  *
 * *
* * *
 * *
```

  * [N=5]

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

```
 Int n;
 Printf(“Enter the number of rows\n”);
 Scanf(“%d”,&n);
 Int spaces=n-1;
 Int stars=1;
 For(int i=1;i<=n;i++)
 {
  For(int j=1;j<=spaces;j++)
  {
   Printf(“ “);
  }
  For(int k=1;k<=stars;k++)
  {
   Printf(“*”);
  }
  If(spaces>i)
  {
   Spaces=spaces-1;
   Stars=stars+2;
  }
  If(spaces<i)
  {
   Spaces=spaces+1;
   Stars=stars-2;
  }
  Printf(“\n”);
 }
 Return 0;
}
```

```
  *
 * *
* * *
* * * *     [N=4]
#include <stdio.h>
Int main()
{
   Int n,m;
   Printf(“Enter the number of rows”);
   Scanf(“%d”,&n);
   M=n;
  For(int i=1;i<=n;i++)
  {
     For(int j=1;j<=m-1;j++)
     {
        Printf(“ “);
     }
     For(int k=1;k<=2*i-1;k++)
     {
       Printf(“*”);
     }
     m--;

    printf(“\n”);
  }
  Return 0;
}
```

**

- [N=4]

```
#include <stdio.h>

Int main()
{
   Int n,m=1;
   Printf(“Enter the number of rows”);
   Scanf(“%d”,&n);
   For(int i=n;i>=1;i--)
   {
    For(int j=1;j<=I;j++)
    {
       Printf(“*”);
    }
    Printf(“\n”);
   }
   Return 0;
}
```

*

**

**** [N=4]

```
#include <stdio.h>
Int main()
 {
  Int I, j, rows;
```

```
  Printf(“Enter the number of rows: “);
  Scanf(“%d”, &rows);
  For (I = 1; I <= rows; ++i)
   {
     For (j = 1; j <= I; ++j)
            {
       Printf(“* “);
     }
     Printf(“\n”);
  }
  Return 0;
}
```

```
  1
 1 2
1 2 3
1 2 3 4    [N=4]
```

```
A
AB
ABC
ABCD
```

```
A
BB
CCC
DDDD      [uppercasecharacter=D]
#include <stdio.h>
Int main()
```

```
{
  Int I, j;
  Char input, alphabet = ‘A’;
  Printf(“Enter an uppercase character you want to print in the last row: “);
  Scanf(“%c”, &input);
  For (I = 1; I <= (input – ‘A’ + 1); ++i)
{
    For (j = 1; j <= I; ++j)
 {
      Printf(“%c “, alphabet);
    }
    ++alphabet;
    Printf(“\n”);
  }
  Return 0;
}
```

```
1
11
121
1331
```

Q50)To draw pascal pyramid.

```
#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;
}
```

QUESTIONS(ARRAYS):

Q51)Initiallization of one dimensional array.

```
#include<stdio.h>
Int main()
{
Int s[5] = {89, 76, 98, 91, 84}, I;
Printf("\n---Students marks details--- ");
For(I = 0; I < 5; i++)
{
```

```
Printf("\ns%d = %d ", I + 1, s[i]);
}
Return 0;
}
```

Q52)To find maximum and minimum value of array.

```
#include <stdio.h>
#include <math.h>
Int getresult(int arr[], int n)
{
  Int min=0,max=0;
  If (n == 1)
    {
          Min=max=arr[0];
          }
   If (arr[0] > arr[1])
         {
    Max = arr[0];
    Min = arr[1];
  }
  Else
  {
    Max = arr[1];
    Min = arr[0];
  }
  For (int I = 2; i<n; i++)
  {
    If (arr[i] > max)
      Max = arr[i];
```

```
    Else if (arr[i] < min)
      Min = arr[i];
  }
  Printf(“ Minimum element: %d”, min);
  Printf(“ Maximum element: %d”, max);
}
Int main()
{
  Int arr[] = {200, 191, 112, -11, 330, 60};
  Int n = 6;
  Getresult (arr, n);
}
```

Q53)To reverse an array.

```
#include <stdio.h>
Int main()
{
 Int n, c, d, a[100], b[100];

 Printf(“enter the number of elements in array\n”);
 Scanf(“%d”, &n);

 Printf(“enter array elements\n”);

 For (c = 0; c < n ; c++)
   Scanf(“%d”, &a[c]);
```

```
  For (c = n – 1, d = 0; c >= 0; c--, d++)
    B[d] = a[c];



  For (c = 0; c < n; c++)
    A[c] = b[c];

  Printf(“the array after reversal:\n”);

  For (c = 0; c < n; c++)
    Printf(“%d\n”, a[c]);

  Return 0;
}
```