Structured Programming Language
CSE-111
C Programming
(RSP)

~~ Hello World Print.

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

int main()
{
   printf("Hello world!\n");
   return 0;
}
```

~~ Addition of two declared values.

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

int main()
{
   int a=10, b=20, sum=0;
   sum=a+b;
   printf("sum of a & b is:%d",sum);

   return 0;
}
```

~~ Uses of scanf.

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

int main()
{
   int a,b,sum=0;
   scanf("%d %d",&a,&b);
   sum=a+b;
   printf("sum of a & b is:%d",sum);
   return 0;
}
```

~~ ASCII value find of character.

```
#include <stdio.h>
int main()
{
   char c;
   printf("Enter a character: ");

   scanf("%c", &c);

   printf("ASCII value of %c = %d", c, c);
   return 0;  }
```

~~ Print a Character.

```
#include <stdio.h>
int main()
{
   char ch;
   printf("Enter a Character\n");
   scanf("%c",&ch);
   printf("%c",ch);
   return 0;
}
```

```
#include<stdio.h>
#include<math.h>
int main()
{
   int number1,number2,ADD,SUB,MUL,DIV;
   //number1= 10;
   //number2= 20;
   printf("Enter Number1 and Number2\n");
   scanf("%d %d",&number1,&number2);

   ADD= number1+number2;
   SUB= number1-number2;
   MUL= number1*number2;
   DIV= number1/number2;

   //printf("%d  ",sizeof(int));
   printf("%d + %d = %d\n",number1,number2,ADD);

   //printf("%d  ",sizeof(int));
   printf("%d - %d = %d\n",number1,number2,SUB);

   //printf("%d  ",sizeof(int));
   printf("%d * %d = %d\n",number1,number2,MUL);

   //printf("%d  ",sizeof(int));
   printf("%d / %d = %d\n",number1,number2,DIV);

   return 0;
}
```

~~ Even odd Check.

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

int main()
{ int num;
printf("Enter an integer:");
scanf("%d",&num);
if(num%2==0)
   printf("%d is an even number",num);
else
   printf("%d is a odd number",num);
   return 0;
}
```

~~ Positive Negative Check.

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

int main()
{ int num;
printf("Enter an integer:");
scanf("%d",&num);
if(num>0)
   printf("%d is a positive number",num);
else
   printf("%d is a negative number",num);
   return 0;
}
```

~~ Equal Number Check.

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

int main()
{ int num1, num2;
printf("Enter two numbers:");
scanf("%d %d",&num1,&num2);
if(num1==num2)
   printf("They are equal");
else
   printf("They are not equal");
   return 0;
}
```

~~ Equal number check among three numbers.

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

int main()
{
   int num1, num2, num3;
   printf("Enter three numbers:");
   scanf("%d %d %d",&num1,&num2,&num3);
   if(num1==num2)
      printf("num1 and num2 are equal");
   else if(num1==num3)
      printf("num1 and num3 are equal");
   else if(num2==num3)
      printf("num2 and num3 are equal");
   else if(num1==num2==num3)
      printf("num1,num2 and num3 are equal");
   return 0;
}
```

~~ Greatest Number check.

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

int main()
{
   int num1, num2, num3;
   printf("Enter three numbers:");
   scanf("%d %d %d",&num1,&num2,&num3);
   if(num1>=num2 && num1>=num3)
      printf("num1 is the greatest number");
   else if(num2>=num1 && num2>=num3)
      printf("num2 is the greatest number");
   else if(num3>=num1 && num3>=num2)
      printf("num3 is the greatest number");
   return 0;
}
```

~~ Greatest Number check using max variable.

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

int main()
{
   int num1, num2, num3, max=0;
   printf("Enter three numbers:");
   scanf("%d %d %d",&num1,&num2,&num3);
```

```
   if(num1>=num2 && num1>=num3)
      max=num1;
   else if(num2>=num1 && num2>=num3)
      max=num2;
   else if(num3>=num1 && num3>=num2)
      max=num3;
   printf("%d is the greatest number",max);
   return 0;
}
```

~~ Swapping Two numbers.

```
#include <stdio.h>
#include <stdlib.h>
int main()
{
   int X,Y;
   printf("Enter two numbers:");
   scanf("%d %d",&X,&Y);
   X=X+Y;
   Y=X-Y;
   X=X-Y;
   printf("After swapping X is %d & Y is %d",X,Y);
   return 0;
}
```

~~ Celsius to Fahrenheit.

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

int main()
{
   int C,F;
   printf("Enter temperature in celsius:");
   scanf("%d",&C);
   F=(9*(C/5))+32;
   printf("Temperature in Farenhite:%d",F);
   return 0;
}
```

~~ Leap year.

```
#include <stdio.h>

int main()
{
   int year;

   printf("Enter a year: ");
```

```
   scanf("%d",&year);

   if(year%4 == 0)
   {
      if( year%100 == 0)
      {
         if ( year%400 == 0)
            printf("%d is a leap year.", year);
         else
            printf("%d is not a leap year.", year);
      }
      else
         printf("%d is a leap year.", year );
   }
   else
      printf("%d is not a leap year.", year);
   return 0;
}
```

~~ Two numbers sum without third variable.

```
#include <stdio.h>
#include <stdlib.h>
int main()
{
   int num1, num2;
   printf("Enter two numbers:");
   scanf("%d %d",&num1,&num2);
   printf("%d + %d = %d",num1,num2,num1+num2);
   return 0;
}
```

FOR LOOP…….

~~ A number series print

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

int main()
{
   int i,n;
   printf("Enter a positive integer:");
   scanf("%d",&n);
   for(i=1; i<=n; i++)
      printf("%d ",i);
   return 0;
}
```

~~ Sum of all numbers.

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

int main()
{
   int i,n,sum=0;
   printf("Enter a positive integer:");
   scanf("%d",&n);
   for(i=1; i<=n; i++)
   {
      printf("%d ",i);
      sum=sum+i;
   }
   printf("\nsum of all numbers= %d",sum);
   return 0;  }
```

~~ series of reverse number.

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

int main()  {
   int i,n,sum=0;
   printf("Enter a positive integer:");
   scanf("%d",&n);
   for(i=n; i>=0; i--)
   {
      printf("%d ",i);
   }
   return 0;  }
```

~~ Sum of all reverse number

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

int main()
{
   int i,n,sum=0;
   printf("Enter a positive integer:");
   scanf("%d",&n);
   for(i=n; i>=0; i--)
   {
      printf("%d ",i);
      sum=sum+i;
   }
   printf("\nsum of all reverse number: %d",sum);
   return 0;  }
```

~~ Print all even number.

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

int main()
{
   int i,n,sum=0;
   printf("Enter a positive integer:");
   scanf("%d",&n);
   for(i=0; i<=n; i++)
   {
      if(i%2==0)
         printf("%d ",i);
   }
   return 0;   }
```

~~ Print all Odd numbers.

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

int main()
{
   int i,n,sum=0;
   printf("Enter a positive integer:");
   scanf("%d",&n);
   for(i=0; i<=n; i++)
   {
      if(i%2==1)
         printf("%d ",i);
   }
   return 0;   }
```

~~ Print all even numbers without using if/else condition.

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

int main()
{
   int i,n;
   printf("Enter a number: ");
   scanf("%d",&n);
   for(i=2;i<=n;i+=2)
      printf("%d ",i);
   return 0;
}
```

~~ Print all numbers that are divided by 3 without if/else condition.

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

int main()
{
   int i,n;
   printf("Enter a number: ");
   scanf("%d",&n);
   for(i=3;i<=n;i+=3)
      printf("%d ",i);
   return 0;
}
```

Fibonacci Number Series……..

~~ Fibonacci number series.

```
#include <stdio.h>
int main()
{
   int n, first = 0, second = 1, reminder=0, i;
   printf("Enter the number of terms");
   scanf("%d", &n);

   for (i = 0; i<= n; i++)
   {
      i=first;
      printf("%d ",first);
      reminder=first+second;
      first=second;
      second=reminder;
   }

   return 0;
}
```

~~ Sum of all Fibonacci number.

```
#include <stdio.h>

int main()
{
   int n, first = 0, second = 1, reminder=0,sum=0, i;

   printf("Enter the number of terms\n");
   scanf("%d", &n);

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

```
    i=first;
    printf("%d ",first);
    reminder=first+second;
    first=second;
    second=reminder;
    sum=sum+first;
  }
  printf("\nsum of fibonacci number: %d",sum);

  return 0;
}
```

~~ Ceiling of a program...

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

int main()
{
  float a,b,s;
  printf("Enter any float value: ");
  scanf("%f %f",&a,&b);
  s=a/b;
printf("\nNormal value is: %.2f\n",s);
  s=ceil(s);
  printf("\nCeiling value is : %.2f\n",s);
  s=floor(a/b);
  printf("\nFloor value is : %.2f\n",s);
  return 0;
}
```

~~ CGPA Switch

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

int main()
{
  int mark;
  while(1)
  {
    printf("Enter the marks: ");
    scanf("%d",&mark);
    if(mark<=100)
      switch (mark/5)
      {
```

```
case 1:

case 2:

case 3:

case 4:

case 5:

case 6:

case 7:
   printf("Failed \n");
   break;
case 8:
   printf("D & Grade:2.00 \n");
   break;
case 9:
   printf("C & Grade:2.25 \n");
   break;
case 10:
   printf("C+ & Grade:2.50 \n");
   break;
case 11:
   printf("B- & Grade:2.75 \n");
   break;
case 12:
   printf("B & Grade:3.00 \n");
   break;
case 13:
   printf("B+ & Grade:3.25 \n");
   break;
case 14:
   printf("A- & Grade:3.50 \n");
   break;
case 15:
   printf("A & Grade:3.75 \n");
   break;
case 16:
   printf("A+ & Grade:4.00 \n");
   break;
case 17:
   printf("A+ & Grade:4.00 \n");
   break;
case 18:
   printf("A+ & Grade:4.00 \n");
```

```
            break;
        case 19:
            printf("A+ & Grade:4.00 \n");
            break;
        case 20:
            printf("A+ & Grade:4.00 \n");
            break;

        }
    else
        printf("Enter Your Mark range 0 to 100.\nEnter again\n\n");    }
  return 0;   }
```

~~ Name Print Switch

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

int main()   {
  int a;

  while(1)    {
    printf("\n");
    scanf("%d",&a);
    switch(a%11)
    {
    case 0:
      printf("Zero");
      break;
    case 1:
      printf("One");
      break;
    case 2:
      printf("Two");
      break;
    case 3:
      printf("Three");
      break;
    case 4:
      printf("Four");
      break;
    default:
      printf("Not Found");
      break;
    }
  }
  return 0;    }
```

~~ Integer, Float, Character together

```
#include<stdio.h>
#include<math.h>
main()
{
   int X,Y,sum;
   float A,B,Product;
   char a;
   printf("Enter Two Integer Numbers:\n");
   scanf("%d %d",&X,&Y);
   sum= X+Y;
   printf("%d + %d = %d\n",X,Y,sum);

   printf("Enter Two Float Number:\n");
   scanf("%f %f",&A,&B);
   Product= A*B;
   printf("%.2f * %.2f = %.2f\n",A,B,Product);

   printf("Enter a Character:\n");
   scanf("%c",&a);
   printf("%c  %c",a,a);
   return 0;
}
```

~~ Multiplication...

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

int main()
{
   int i,j,n;
   for(j=1; j<=10; j++)
   {
      printf("\nMultiplication of %d\n",j);

      for(i=1; i<=10; i++)

         printf("%d * %d = %d\n",j,i,j*i);
   }
   return 0;
}
```

~~ Prime Number

```
#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)
   {
      // condition for nonprime number
      if(n%i == 0)
      {
         flag = 1;
         break;
      }
   }

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

   return 0;
}
```

~~ Sum of prime number...

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

int main()
{
   int num,i,j,flag,last=0;
   printf("Enter any positive integer numbers: ");
   scanf("%d",&num);

   for(i=2; i<=num; i++)
   {
      flag=1;
```

```
    for(j=2; j<=i/2; j++)

      if(i%j==0)
        {flag=0;
      break;
    }

    if(flag==1)
    {

      last+=i;
    }
  }
  printf("sum=%d",last);
  return 0;
}
```

~~ Palindrome.....

```
#include <stdio.h>
int main()
{
  int n, reversedInteger = 0, remainder, originalInteger;

  printf("Enter an integer: ");
  scanf("%d", &n);

  originalInteger = n;

  // reversed integer is stored in variable
  while( n!=0 )
  {
    remainder = n%10;
    reversedInteger = reversedInteger*10 + remainder;
    n /= 10;
  }

  // palindrome if orignalInteger and reversedInteger are equal
  if (originalInteger == reversedInteger)
    printf("%d is a palindrome.", originalInteger);
  else
    printf("%d is not a palindrome.", originalInteger);

  return 0;
}
```

~~ Count Digit.

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

int main()
{

   int count=0;
   long long n;
   scanf("%lld",&n);
   while(n!=0)
   {
      n/=10;
      count++;
   }
   printf("total digit:%d",count);
   return 0;
}
```

~~Reverse An Integer.

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

int main()
{
   int reversed=0,n,reminder=0;

   scanf("%d",&n);
   while(n!=0)
   {
     reminder=n%10;
     reversed=(reversed*10)+reminder;
     n=n/10;
   }
   printf("reversed number:%d",reversed);
   return 0;
}
```

~~ Factorial of a number.

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

int main()
{
   int i,n;
   unsigned long long factorial=1;
   scanf("%d",&n);
```

```
  if(n<0)
     printf("Error");
  else
  {
     for(i=1; i<=n;i++)
     {
        factorial*=i;
     }
     printf("Factorial of %d = %llu",n,factorial);
  }

  return 0;  }
```

~~ Simple Character check

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

int main()
{
 char C;
 scanf("%c",&C);
 if(C>='a' || C>='A')
   printf("%c is an alphabet",C);
 else
   printf("%c is not an alphabet",C);

   return 0;
}
```

~~ Vowel or Constant Check

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

int main()
{
 char C;
 int upcasevol,lowcasevol;
 scanf("%c",&C);
 upcasevol=(C=='a' || C=='e' || C=='i' || C=='o' || C=='u');
 lowcasevol=(C=='A' || C=='E' || C=='I' || C=='O' || C=='U');

 if(upcasevol || lowcasevol)
   printf("%c is a vowel",C);
 else
   printf("%c is a constant",C);

   return 0;  }
```

~~
*
**
***
****
*****

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

   printf("Enter 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
1 2 3 4 5

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

   printf("Enter number of rows: ");
   scanf("%d",&rows);

   for(i=1; i<=rows; ++i)  {
      for(j=1; j<=i; ++j)
      {
         printf("%d ",j);
      }
      printf("\n");
   }
   return 0;   }
```
~~~~

~~~
A
B B
C C C
D D D D
E E E E E
```
#include <stdio.h>
int main()  {
   int i, j;
   char input, alphabet = 'A';

   printf("Enter the uppercase character you want to print in 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;   }
```

~~~
* * * * *
* * * *
* * *
* *
*
```
#include <stdio.h>
int main()   {
   int i, j, rows;

   printf("Enter number of rows: ");
   scanf("%d",&rows);

   for(i=rows; i>=1; --i)
   {
      for(j=1; j<=i; ++j)
      {
         printf("* ");
      }
      printf("\n");    }

   return 0;   }
```

1 2 3 4 5
1 2 3 4
1 2 3
1 2
1

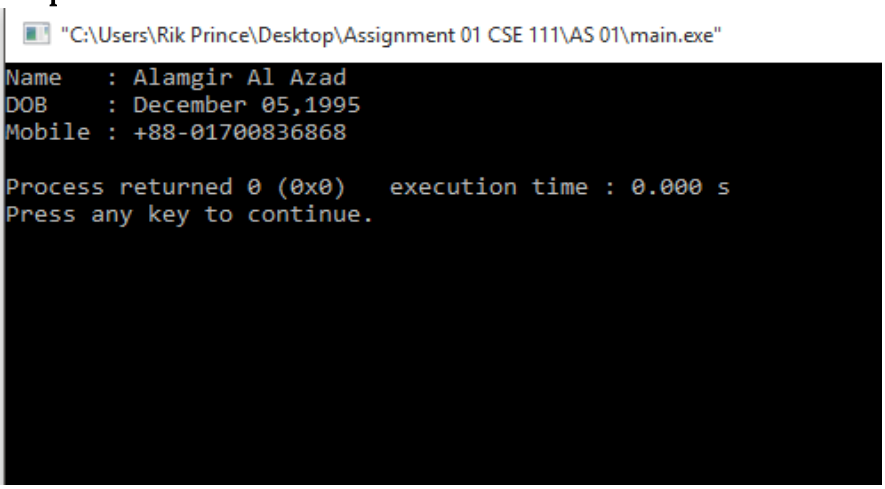
```
#include <stdio.h>
int main()
{
   int i, j, rows;

   printf("Enter number of rows: ");
   scanf("%d",&rows);

   for(i=rows; i>=1; --i)
   {
      for(j=1; j<=i; ++j)
      {
         printf("%d ",j);
      }
      printf("\n");
   }

   return 0;
}
```

Code From Assignment 01…

1. Write a C program to print your name, date of birth and mobile number.

```
#include <stdio.h>
int main() {
   printf("Name   : Alamgir Al Azad\n");
   printf("DOB    : December 05,1995\n");
   printf("Mobile : +88-01700836868\n");
   return 0; }
```

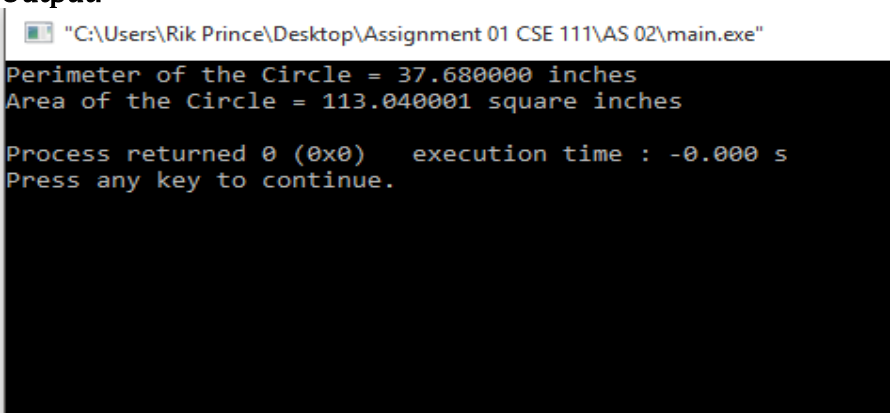
Output:



2. Write a C program to compute the perimeter and area of a circle with a radius of 6 inches.

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

int main() {
   float radius=6,area,perimeter,pi=3.14;
   perimeter= 2*pi*radius;
   area= pi*(radius*radius);
   printf("Perimeter of the Circle = %f inches\n",perimeter);
   printf("Area of the Circle = %f square inches\n",area);
return 0; }
```

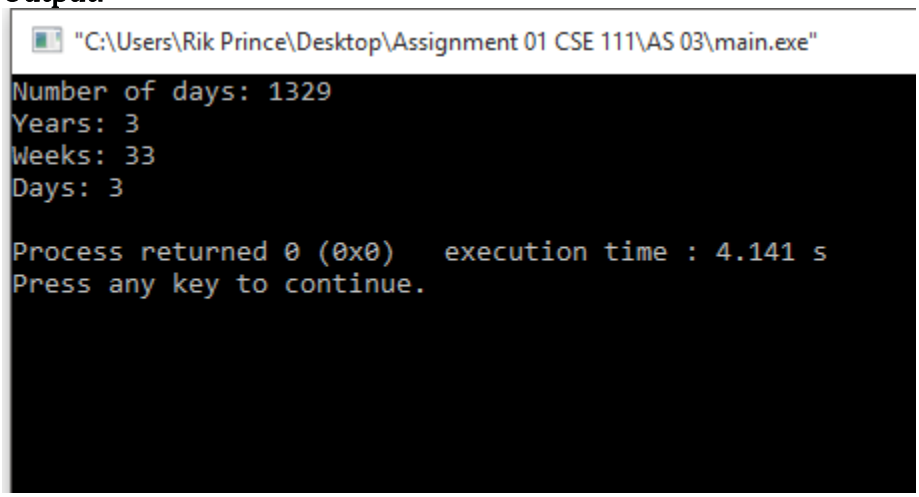
Output:



3. **Write a C program to convert specified days into years, weeks and days.**

```
#include <stdio.h>
int main()  {
   int days, years, weeks;

   printf("Number of days: ");
   scanf("%d",&days);

   years = days/365;
    printf("Years: %d\n", years);

   weeks = (days % 365)/7;
    printf("Weeks: %d\n", weeks);

   days = days- ((years*365) + (weeks*7));
   printf("Days: %d \n", days);

   return 0;  }
```

Output:

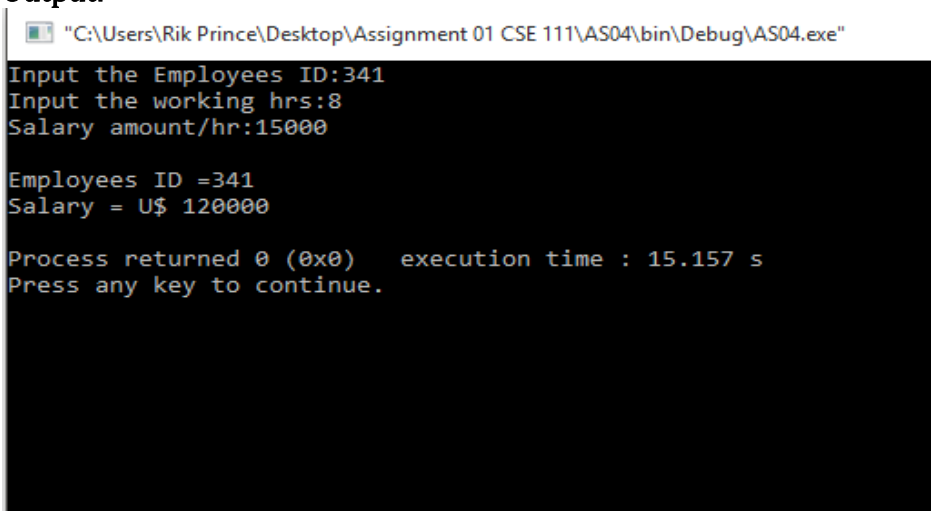


4. **Write a C program that accepts an employee's ID, total worked hours of a month and the amount he received per hour. Print the employee's ID and salary (with two decimal places) of a particular month.**

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

int main()  {
   int ID,hour,rate,salary;
   printf("Input the Employees ID:");
   scanf("%d",&ID);
   printf("Input the working hrs:");
   scanf("%d",&hour);
   printf("Salary amount/hr:");
   scanf("%d",&rate);
```

```
   salary= rate*hour;
   printf("\nEmployees ID =%d\n",ID);
   printf("Salary = U$ %d\n",salary);
   return 0;  }
```

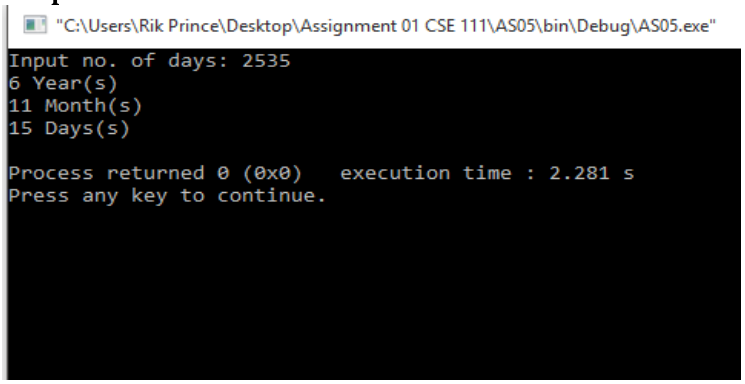
Output:



5. **Write a C program to convert a given integer (in days) to years, months and days, assumes that all months have 30 days and all years have 365 days.**

```
#include <stdio.h>
int main()  {
int days, years, months;

   printf("Input no. of days: ");
   scanf("%d",&days);
   years = days/365;
    printf("%d Year(s)\n", years);
   months = (days % 365)/30;
    printf("%d Month(s)\n", months);
   days = days- ((years*365) + (months*30));
   printf("%d Days(s)\n", days);
   return 0;  }
```

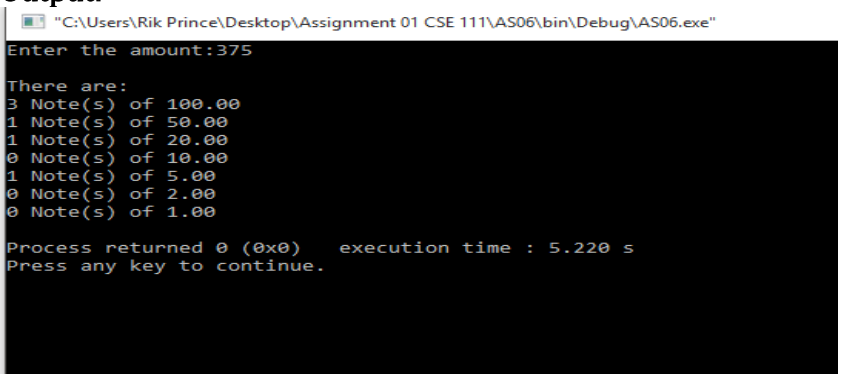
Output:



6. **Write a C program to read an amount (integer value) and break the amount into smallest possible number of bank notes.**

```
#include <stdio.h>
#include <stdlib.h>
int main()  {
   int amount,hundred,fifty,twenty,ten,five,two,one,mid;
   printf("Enter the amount:");
   scanf("%d",&amount);
   printf("\nThere are:\n");

   hundred=amount/100;
   printf("%d Note(s) of 100.00\n",hundred);

   mid=amount%100;
   fifty=mid/50;
   printf("%d Note(s) of 50.00\n",fifty);

   mid=mid%50;
   twenty=mid/20;
   printf("%d Note(s) of 20.00\n",twenty);

   mid=mid%20;
   ten=mid/10;
   printf("%d Note(s) of 10.00\n",ten);

   mid=mid%10;
   five=mid/5;
   printf("%d Note(s) of 5.00\n",five);

   mid=mid%5;
   two=mid/2;
   printf("%d Note(s) of 2.00\n",two);

   mid=mid%2;
   one=mid/2;
   printf("%d Note(s) of 1.00\n",one);
   return 0; }
```

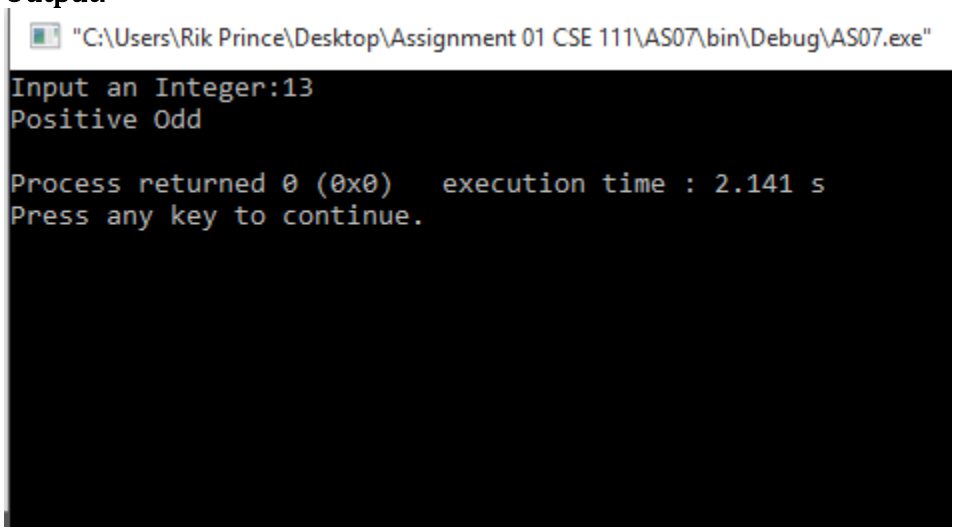
Output:



7. **Write a C program to check a given integer is positive even, negative even, positive odd or negative odd. Print even if the number is 0.**

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

   int X;
   printf("Input an Integer:");
   scanf("%d",&X);

   if(X>0)
   {
      if(X%2==0)
         printf("Positive Even\n");
      else
         printf("Positive Odd\n");
   }
   else if(X<0)
   {
      if(X%2==0)
         printf("Negative Even\n");
      else
         printf("Negative Odd\n");
   }
   else
      printf("The Number is 0");

   return 0;  }
```

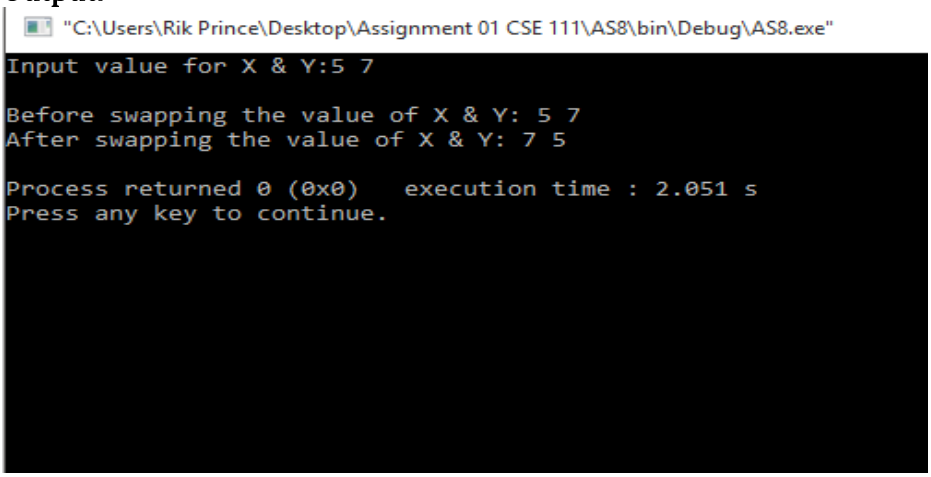
Output:



8. **Write a C program that swaps two numbers without using third variable.**

```
#include <stdio.h>
int main() {
  int X,Y;
  printf("Input value for X & Y:");
  scanf("%d %d",&X,&Y);
  printf("\nBefore swapping the value of x & y:%d %d\n",X,Y);
  X=X-Y;
  Y=X+Y;
  X=Y-X;
  printf("After swapping the value of x & y:%d %d\n",X,Y);
   return 0;  }
```

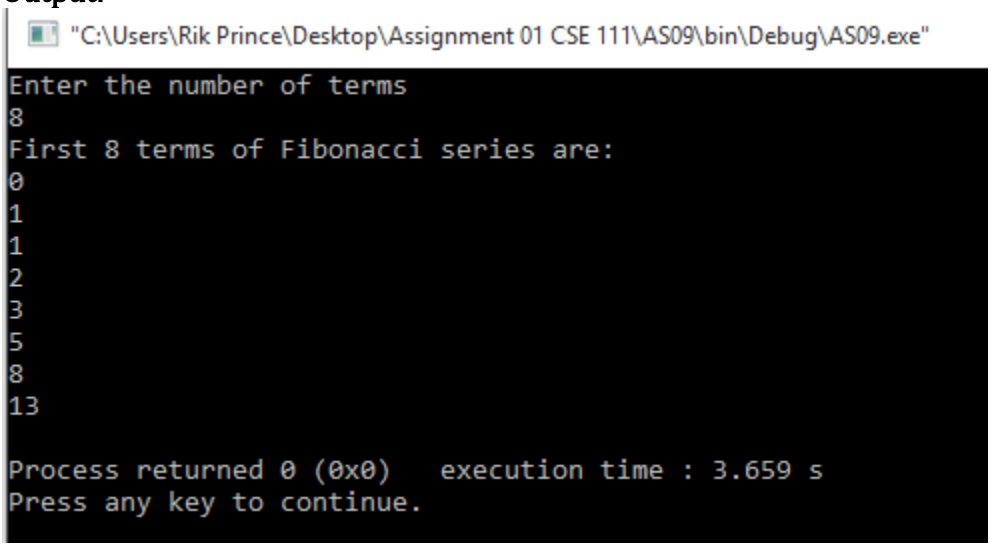
Output:



9. **Observe the following program:**
Fibonacci series C program

```
#include <stdio.h>
int main() {
   int n, frst = 0, second = 1, next, c;
   printf("Enter the number of terms\n");
   scanf("%d", &n);
   printf("First %d terms of Fibonacci series are:\n", n);
   for (c = 0; c < n; c++)  {
      if (c <= 1)
         next = c;
      else
      {
         next = frst + second;
         frst = second;
         second = next;
      }
      printf("%d\n", next);   }
   return 0; }
```

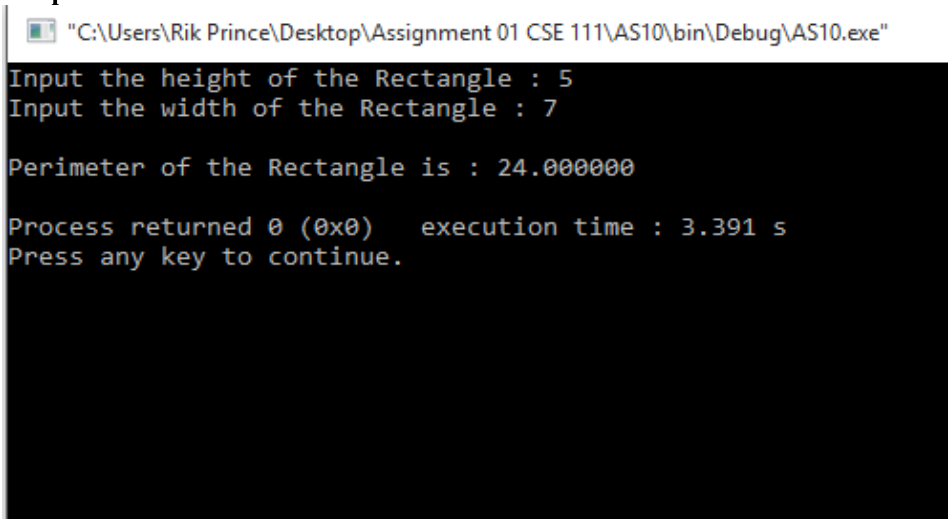
Output:



10. Write a C program that prints the perimeter of a rectangle to take its height and width as input.

```
#include <stdio.h>

int main() {

float width,height,perimeter;

        printf("Input the height of the Rectangle : ");
        scanf("%f",&height);

        printf("Input the width of the Rectangle : ");
        scanf("%f",&width);

        perimeter = 2.0 * (height + width);

        printf("\nPerimeter of the Rectangle is : %f\n",perimeter);
        return 0; }
```

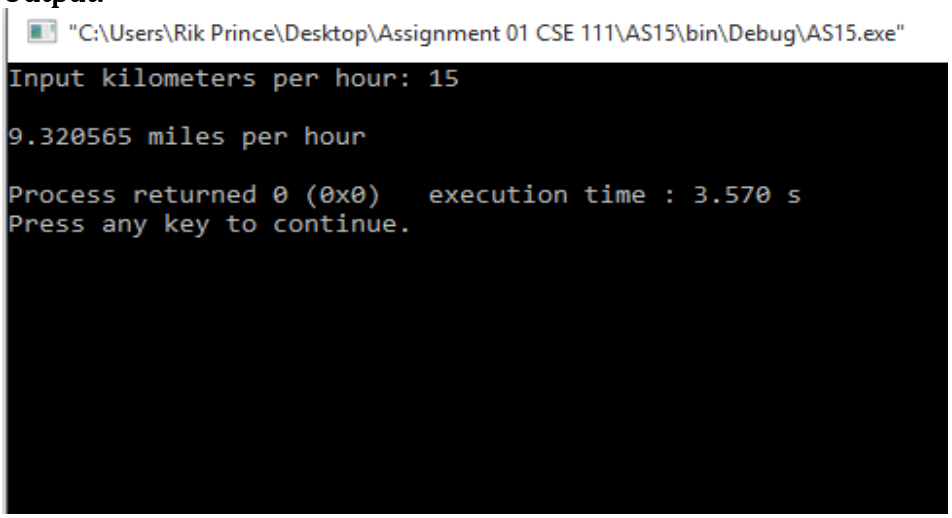
Output:



11. Write a C program that converts kilometers per hour to miles per hour.

```
#include <stdio.h>

int main() {
   float km,mile;
   printf("Input kilometers per hour: ");
   scanf("%f",&km);

   mile=(km*0.621371);
   printf("\n%f miles per hour\n",mile);
   return 0; }
```

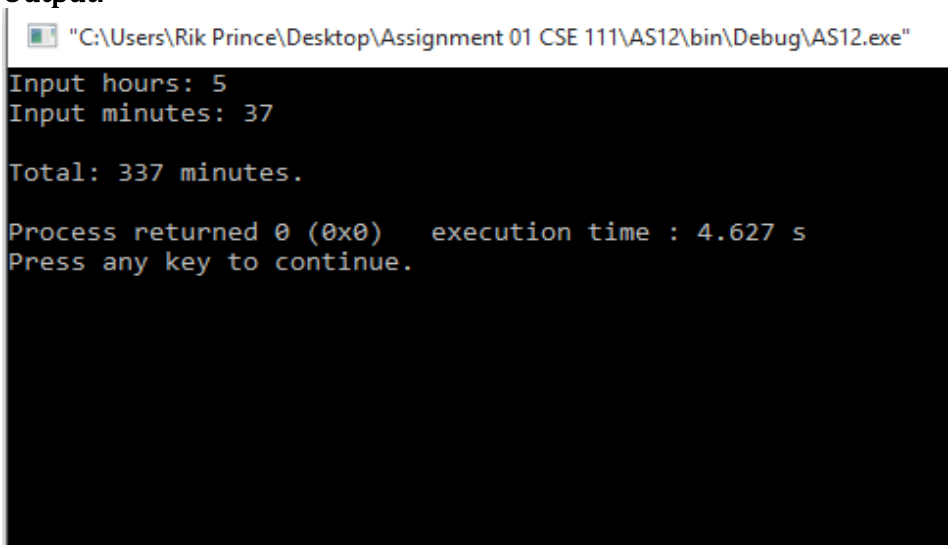
Output:



12. Write a C program that takes hours and minutes as input, and calculates the total number of minutes.

```
#include <stdio.h>
int main() {
   int hours,mnts;

   printf("Input hours: ");
   scanf("%d",&hours);

   printf("Input minutes: ");
   scanf("%d",&mnts);

   mnts=(hours*60)+mnts;
   printf("\nTotal: %d minutes.\n",mnts);

   return 0; }
```

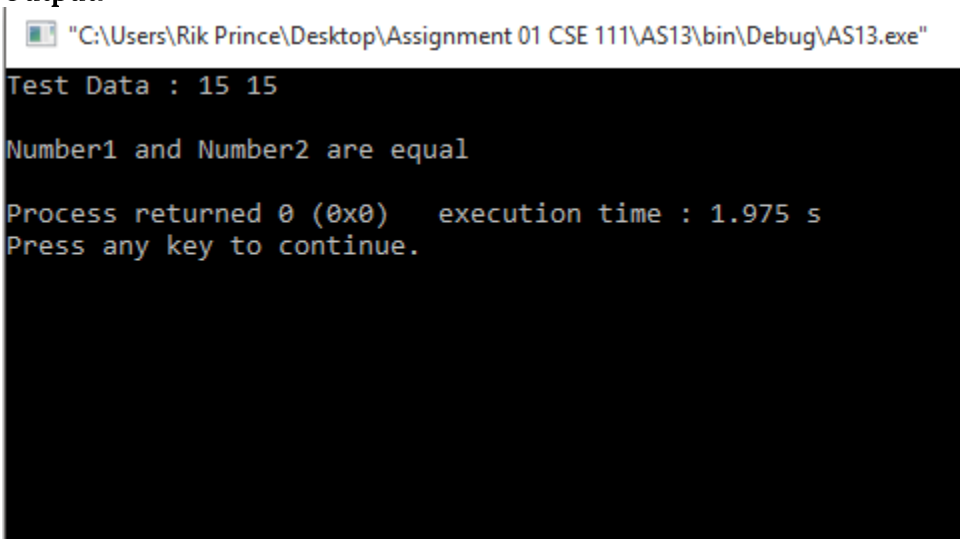
Output:



13. Write a C program to accept two integers and check whether they are equal or not.

```
#include<stdio.h>
int main() {
   int number1, number2;

   printf("Test Data : ");
   scanf("%d %d",&number1,&number2);

   if(number1==number2)
      printf("\nNumber1 and Number2 are equal\n");

   else
      printf("\nNumber1 and Number2 are not equal");

   return 0; }
```

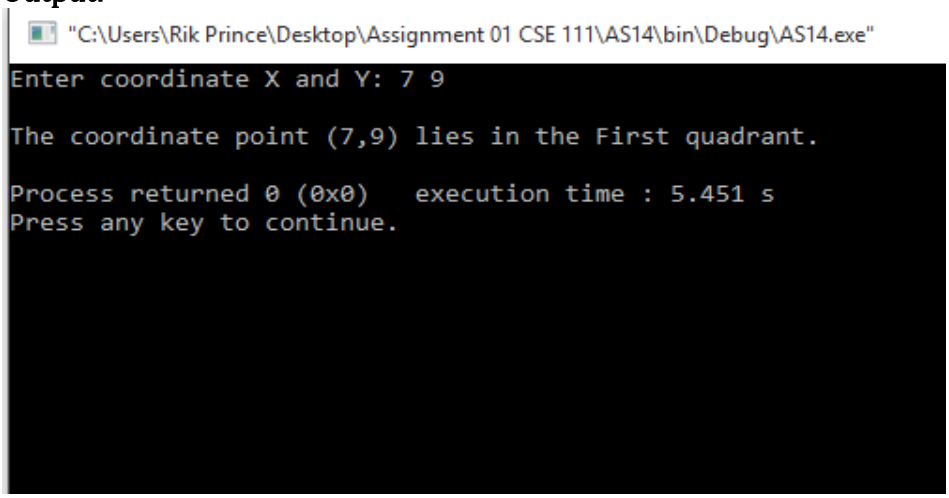
Output:



14. Write a C program to accept a coordinate point in a XY coordinate system and determine in which quadrant the coordinate point lies.

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

int main() {
   int X,Y;
   printf("Enter coordinate X and Y: ");
   scanf("%d %d",&X,&Y);
   if(X>0 && Y>0)
      printf("The coordinate point (%d,%d) lies in the First quadrant.",X,Y);
   else if(X<0 && Y>0)
      printf("The coordinate point (%d,%d) lies in the Second quadrant.",X,Y);
   else if(X<0 && Y<0)
      printf("The coordinate point (%d,%d) lies in the Third quadrant.",X,Y);
   else if(X>0 && Y<0)
      printf("The coordinate point (%d,%d) lies in the Fourth quadrant.",X,Y);
   return 0; }
```

Output:

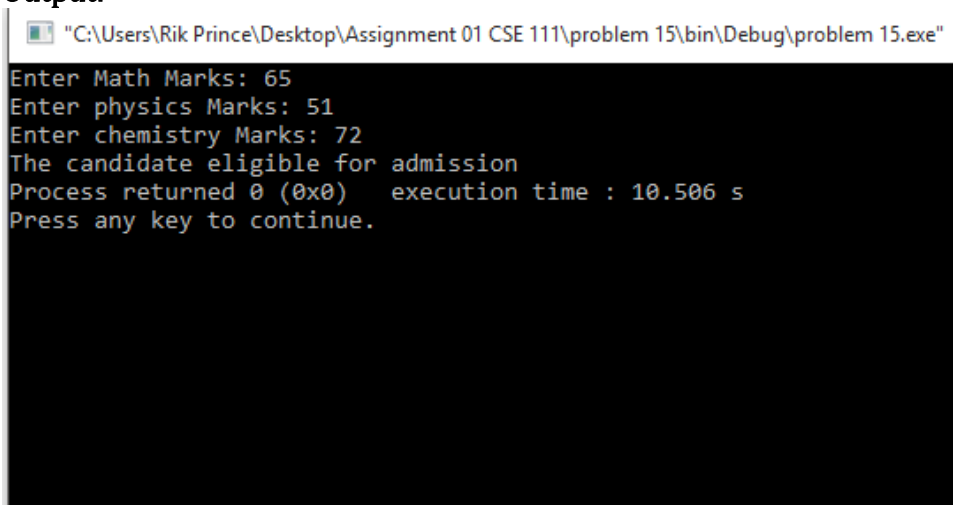


15. Write a C program to fnd the eligibility of admission for a professional course based on the following criteria:
Marks in Maths >=65
Marks in Phy >=55
Marks in Chem>=50
Total in all three subject >=180
or
Total in Math and Subjects >=140

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

int main()  {
   int math,phy,chem,threeSubject,mathPhy;
```

```
   printf("Enter Math Marks: ");
   scanf("%d",&math);
   printf("Enter physics Marks: ");
   scanf("%d",&phy);
   printf("Enter chemistry Marks: ");
   scanf("%d",&chem);

   threeSubject=math+phy+chem;
   mathPhy=math+phy;
   if(threeSubject>=180)
      printf("The candidate eligible for admission");
   else if(mathPhy>=140)
      printf("The candidate eligible for admission");
   else if(math>=65 && phy>=55 && chem>=50)
      printf("The candidate eligible for admission");
   else
      printf("The candidate not eligible for admission");

   return 0; }
```

Output:



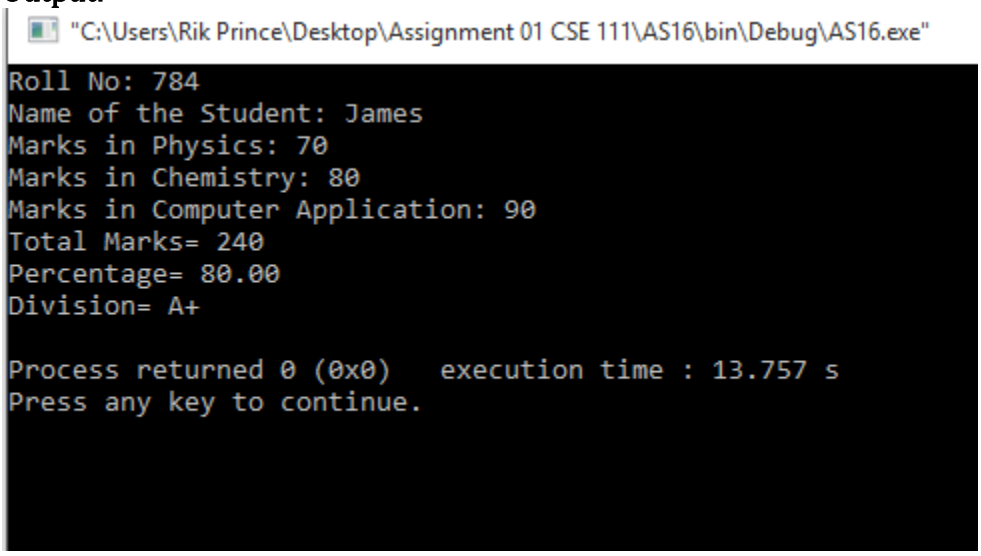
16. Write a C program using *switch* to read roll no, name and marks of three subjects and calculate the total, percentage and division.

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

main()  {
   int roll,phy,che,ca,total,count;
   char name;

   printf("Roll No: ");
   scanf("%d",&roll);
```

```
printf("Name of the Student: James\n");
scanf("%c",&name);

printf("Marks in Physics: ");
scanf("%d",&phy);
printf("Marks in Chemistry: ");
scanf("%d",&che);

printf("Marks in Computer Application: ");
scanf("%d",&ca);

total=(phy+che+ca);
printf("Total Marks= %d\n",total);

count=total/3;

{if(count>=80)
   printf("Percentage= 80.00\n");
else if(count>=70)
   printf("Percentage= 70.00\n");
else if(count>=60)
   printf("Percentage= 60.00\n");
else if(count>=50)
   printf("Percentage= 50.00\n");}

switch(count/10)
{
case 1:
case 2:
case 3:
   printf("Division= F\n");
   break;
case 4:
   printf("Division= D\n");
    break;
case 5:
   printf("Division= C\n");
    break;
case 6:
   printf("Division= B\n");
    break;
case 7:
   printf("Division= A\n");
    break;
case 8:
case 9:
case 10:
   printf("Division= A+\n");
    break;
}
```

```
    return 0; }
```

Output:



17. Write a C program to using *switch* read temperature in centigrade and display a suitable message according to temperature state below:

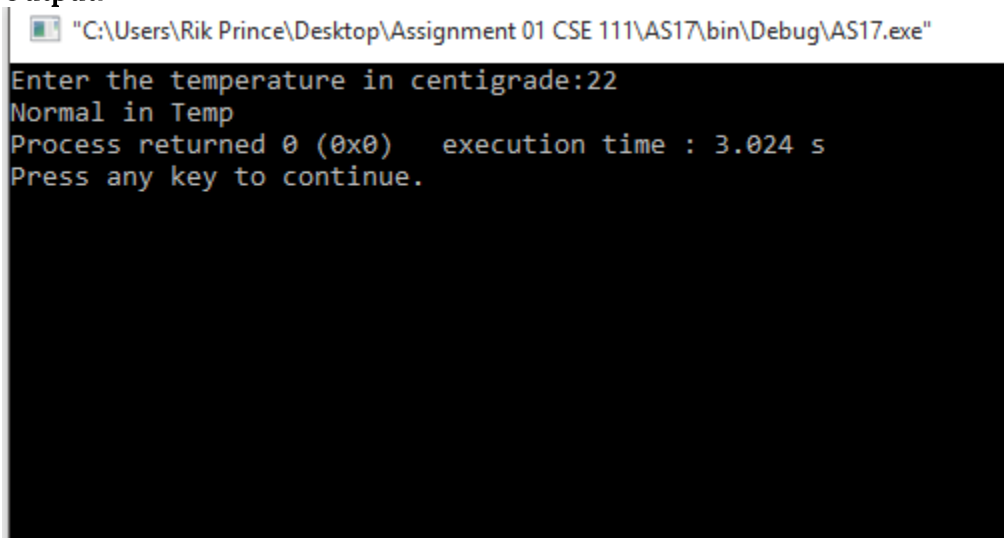
Temp < 0 then Freezing weather
Temp 0-10 then Very Cold weather
Temp 10-20 then Cold weather
Temp 20-30 then Normal in Temp
Temp 30-40 then It's Hot
Temp >=40 then Its Very Hot

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

int main( ) {
   int temp;
   printf("Enter the temperature in centigrade:");
   scanf("%d",&temp);
   switch(temp/1)
   {
   case 0:
      printf("Freezing weather");
      break;

   case 1:
   case 2:
   case 3:
   case 4:
   case 5:
   case 6:
```

```
case 7:
case 8:
case 9:
case 10:
   printf("Very Cold weather");
   break;

case 11:
case 12:
case 13:
case 14:
case 15:
case 16:
case 17:
case 18:
case 19:
case 20:
   printf("Cold weather");
   break;

case 21:
case 22:
case 23:
case 24:
case 25:
case 26:
case 27:
case 28:
case 29:
case 30:
   printf("Normal in Temp");
   break;

case 31:
case 32:
case 33:
case 34:
case 35:
case 36:
case 37:
case 38:
case 39:
case 40:
   printf("Its Hot");
   break;

case 41:
case 42:
case 43:
case 44:
case 45:
```

```
    case 46:

      printf("Its Very Hot");
      break;
    }
    return 0; }
```

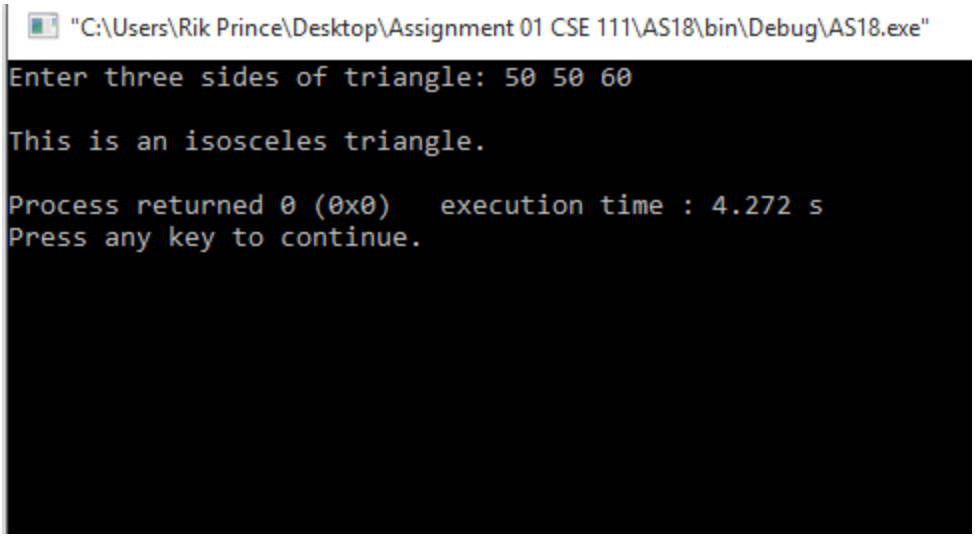
Output:



18. Write a C program to check whether a triangle is Equilateral, Isosceles or Scalene.

```
#include <stdio.h>

int main() {
   int side1, side2, side3;
   printf("Enter three sides of triangle: ");
   scanf("%d%d%d", &side1, &side2, &side3);

   if(side1==side2 && side2==side3)
      printf("This is an equilateral triangle.");

   else if(side1==side2 || side1==side3 || side2==side3)
      printf("This is an isosceles triangle.");

   else
      printf("This is a scalene triangle.");

   return 0;  }
```

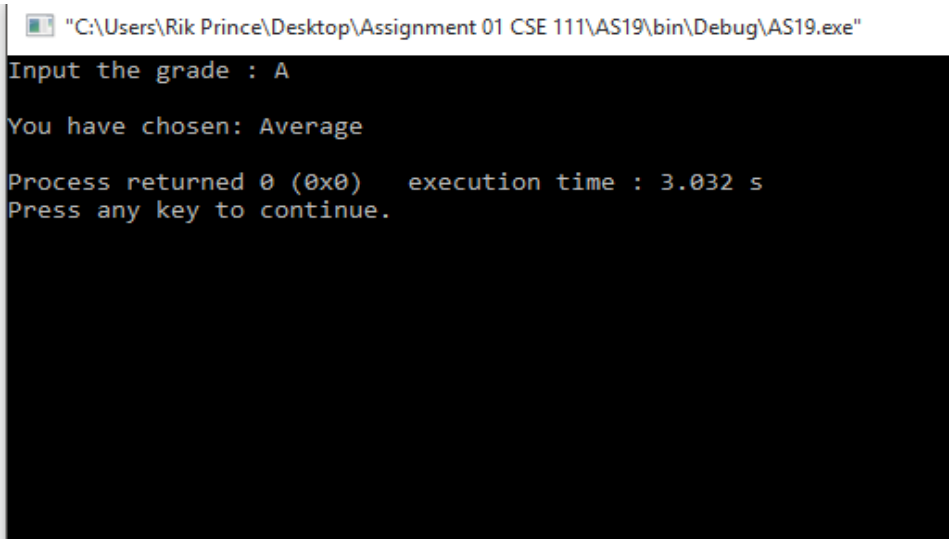
Output:



19. Write a program in C using *switch* to accept a grade and declare the equivalent

```
#include <stdio.h>

int main()  {
   char n;
   printf("Input the grade : ");
   scanf("%c",&n);

   switch (n) {
   case 'E':
      printf("\nYou have chosen: Excellent\n");
      break;

   case 'V':
      printf("\nYou have chosen: Very Good\n");
      break;

   case 'G':
      printf("\nYou have chosen: Good\n");
      break;

   case 'A':
      printf("\nYou have chosen: Average\n");
      break;

   case 'F':
      printf("\nYou have chosen: Fail\n");
      break; }

   return 0;  }
```

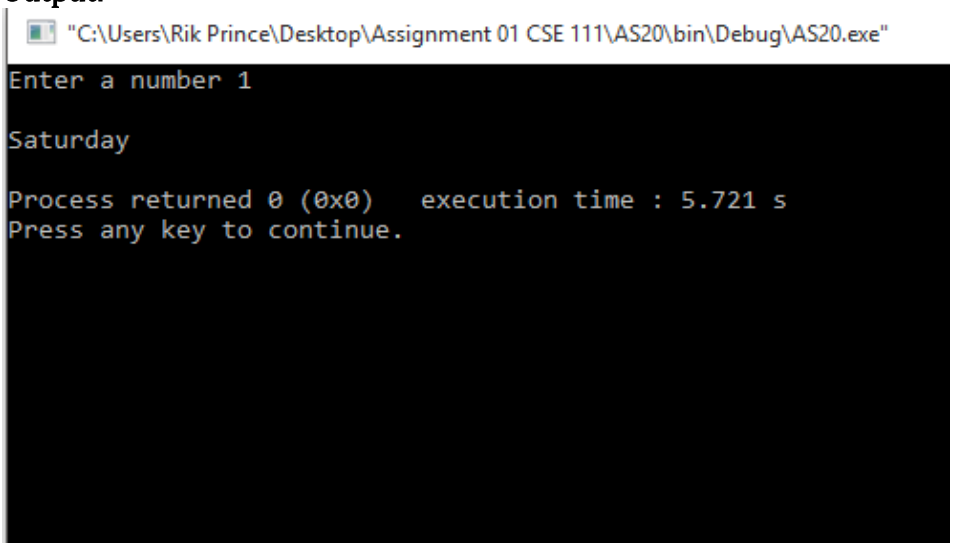
Output:



20. Write a program in C using *switch* to read any day number in integer and display day name in the word.

```
#include <stdio.h>
int main() {
   int n;
   printf("Enter a number ");
   scanf("%d",&n);

   switch(n){

   case 1:
   printf("\nSaturday\n");
   break;
   case 2:
   printf("\nSunday\n");
   break;
   case 3:
   printf("\nMonday\n");
   break;
   case 4:
   printf("\nTuesday\n");
   break;
   case 5:
   printf("\nWednesday\n");
   break;
   case 6:
   printf("\nThursday\n");
   break;
   case 7:
   printf("\nFriday\n");
   break;  }
   return 0;  }
```

Output:

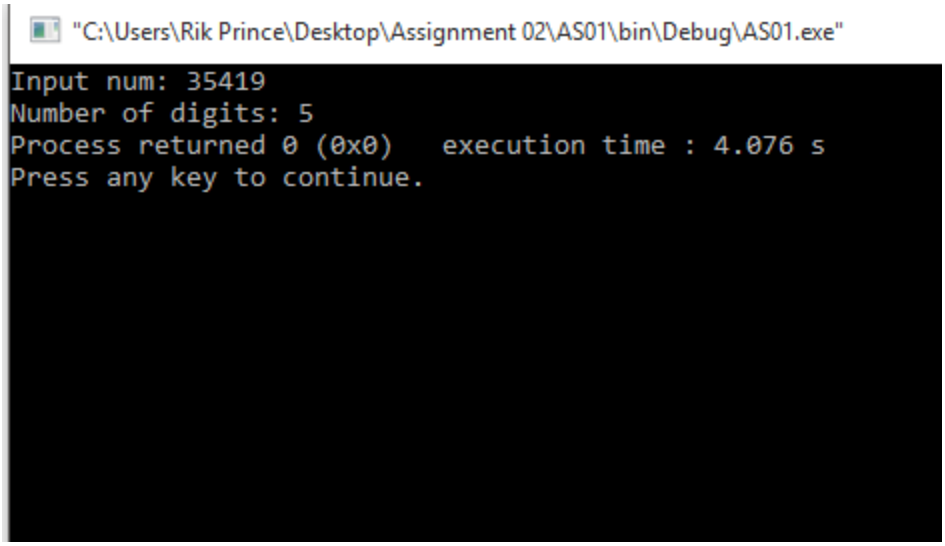


Code From Assignment 02

1. **Write a C program to input a number from user and count number of digits in the given integer using loop. How to find total digits in a given integer using loop in C programming.**

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

   printf("Input num: ");
   scanf("%d", &n);

   while(n != 0)
   {
      n= n/10;
      count++;
   }

   printf("Number of digits: %d", count);

   return 0;  }
```

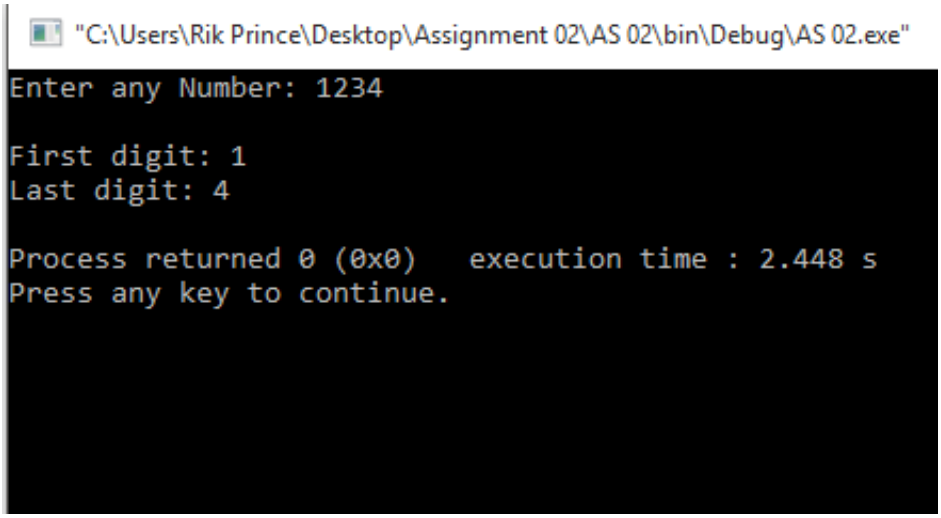
Output:



2. **Write a C program to input a number from user and find first and last digit of number using loop. How to find first and last digit of a number in C programming.**

```
#include <stdio.h>

int main()
{
   int n, fst_digit,lst_digit;

   printf("Enter any Number: ");
   scanf("%d", & n);
   fst_digit = n;

   while(fst_digit >= 10)
   {
      fst_digit = fst_digit / 10;
   }
   lst_digit = n % 10;

   printf("\nFirst digit: %d\n",fst_digit);
   printf("Last digit: %d\n",lst_digit);

   return 0;
}
```

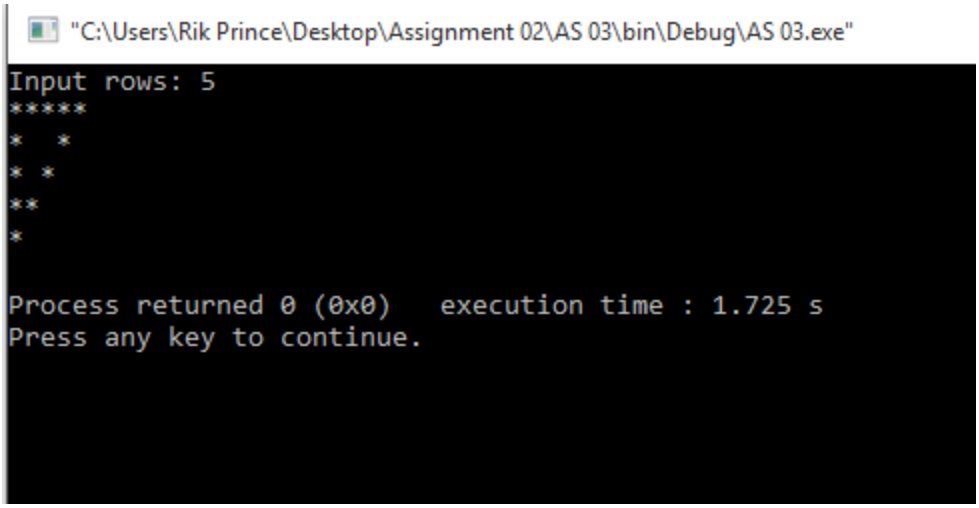
Output:



3. **Write a C program to print hollow inverted right triangle star pattern of n rows using for loop. How to print hollow inverted right triangle star pattern series of n rows in C program.**

```
#include <stdio.h>
int main()
{
   int i, j, n;
   printf("Input rows: ");
   scanf("%d", &n);

   for(i=1; i<=n; i++)
   {
      for(j=i; j<=n; j++)
      {
         if(j==i || j==n || i==1)
         {
            printf("*");
         }
         else
         {
            printf(" ");
         }
      }
      printf("\n");
   }
   return 0;
}
```

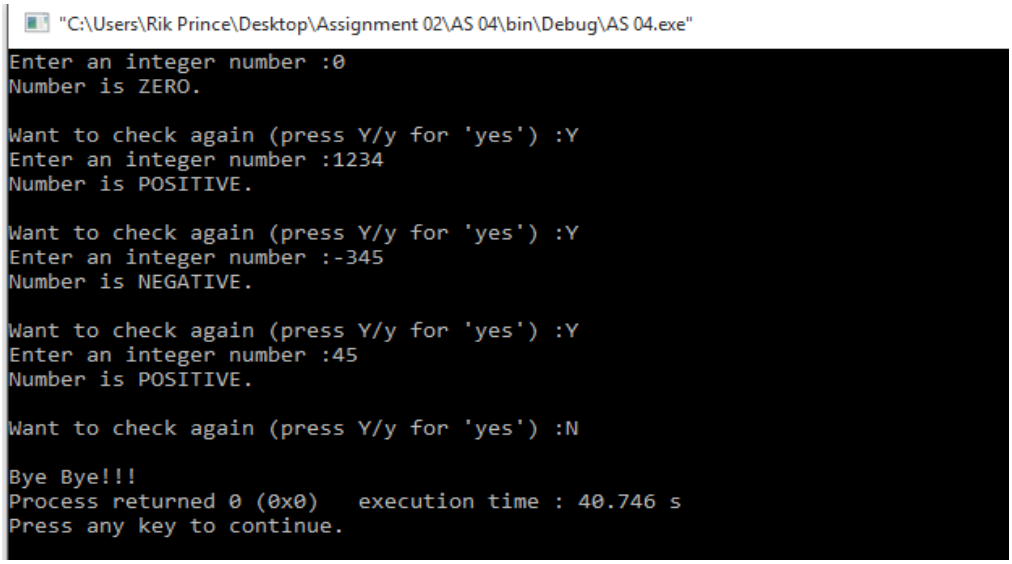
Output:



4. **Write a C program to check whether number is POSITIVE, NEGATIVE or ZERO until user doesn't want to exit.**

```
#include <stdio.h>
int main()
{
   int num;
   char decision;
   do
   {
      printf("Enter an integer number :");
      scanf("%d",&num);

      if(num>0)
         printf("Number is POSITIVE.");
      else if(num<0)
         printf("Number is NEGATIVE.");
      else if(num==0)
         printf("Number is ZERO.");

      printf("\n\nWant to check again (press Y/y for 'yes') :");
      scanf(" %c",&decision);
   }
   while(decision=='Y' || decision=='y');

   printf("\nBye Bye!!!");

   return 0;
}
```

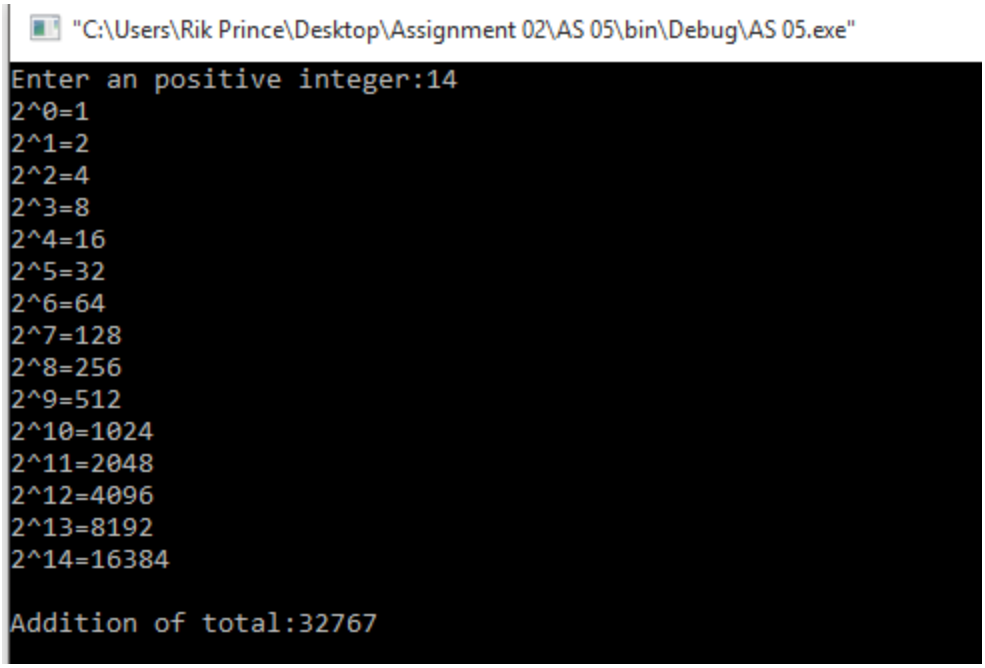
Output:



5. **Compute "2^0 + 2^1 + 2^2 + ... + 2^14" using loop.**
   use, pow(a,b) means a^b and add #include<stdio.h> to header file

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

int main()
{
   int i,j,n,rslt=0;

   printf("Enter an positive integer:");
   scanf("%d",&n);

   for(i=0;i<=n;i++)
   {
   j=pow(2,i);
   rslt=rslt+j;

      printf("2^%d=%d\n",i,j);
    }
      printf("\nAddition of total:%d\n",rslt);

   return 0;
}
```

Output:



Some Problem of Pyramid……

1.

```
#include <stdio.h>
int main(){
int i,j,k,l,m,n=10;
for (i=1;i<=n;i++)
{
/*for (j=5;j>i;j--)
{
printf(" ");
}*/
for (k=1;k<=i;k++)
{
printf("* ");
}
for (j=1;j<=4*(n-i);j++)
{
printf(" ");
}
for (m=1;m<=i;m++)
{
printf("* ");
}
printf("\n");
}
return 0;
}
```

2.

```
#include <stdio.h>
int main(){
int i,j,k,l,m,s=0;
for (i=1;i<=5;i++)
{
for (j=5;j>i;j--)
{
printf(" ");
}
for (k=1;k<=i;k++)
{
s++;
printf("%d ",s);
}
printf("\n");
}
return 0;
}
```

3.

```
#include <stdio.h>
int main(){
int i,j,k,l,m;
for (i=5;i>0;i--)
{
for (j=5;j>i;j--)
{
printf(" ");
}
for (k=1;k<=i;k++)
{
printf("* ");
}
printf("\n");
}
return 0;
}
```

4.

```
#include <stdio.h>
int main(){
int i,j,k,l,m;
for (i=1;i<=5;i++)
{
for (j=1;j<=5-i;j++)
{
printf(" ");
}
for (k=1;k<=i;k++)
```

```
{
printf("* ");
}
for (k=2;k<=i;k++)
{
printf("* ");
}
printf("\n");
}
for (i=5-1;i>0;i--)
{
for (j=1;j<=5-i;j++)
{
printf(" ");
}
for (k=1;k<=i;k++)
{
printf("* ");
}
for (k=2;k<=i;k++)
{
printf("* ");
}
printf("\n");
}
return 0;
}
```

5.

```
#include <stdio.h>
int main(){
int i,j,k,l,m;
for (i=5;i>0;i--)
{
for (j=1;j<=5-i;j++)
{
printf(" ");
}
for (k=1;k<=i;k++)
{
printf("* ");
}
for (k=2;k<=i;k++)
{
printf("* ");
}
printf("\n");
}
for (i=2;i<=5;i++)
{
```

```
for (j=1;j<=5-i;j++)
{
printf(" ");
}
for (k=1;k<=i;k++)
{
printf("* ");
}
for (k=2;k<=i;k++)
{
printf("* ");
}
printf("\n");
}
return 0;
}
```

--- 0 ---

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Intake- 39 Section- 01