

C PROGRAMS

Name: *Sreya Biju*

Sec:A

51	<p>Write a program to find factorial of a number N</p> <p>PROGRAM:</p> <pre>#include <stdio.h> #include <stdlib.h> int main() { int n,i,fact=1; printf("enter the value for n:"); scanf("%d",&n); for (i=1;i<=n;i++) { fact=fact*i; } printf("factorial of %d is %d\n",n,fact); }</pre> <p>OUTPUT:</p> <pre>enter the value for n:5 factorial of 5 is 120</pre>
52	<p>Write a program to generate N Fibonacci series</p> <p>PROGRAM:</p> <pre>#include <stdio.h> #include <stdlib.h> int main() { int first=-1,second=1,i,third,n; printf("Enter the number of terms:"); scanf("%d",&n); for(i=-1;i<=n;i++) { third=first+second; printf("%d\n",third); first=second; second=third; } }</pre> <p>OUTPUT:</p> <pre>Enter the number of terms:5 0</pre>

	1 1 2 3 5 8
53.	<p>Write a program to generate prime numbers within a range N</p> <p>PROGRAM:</p> <pre> #include <stdio.h> #include <stdlib.h> int main() { int a,i,n,c,count=0; printf("Enter the range:"); scanf("%d",&n); for(a=1;a<=n;a++) { for(i=1;i<=n;i++) { c=a%i; if(c==0) { count=count+1; } } if (count==2) { printf("%d\n",a); } count=0; } } </pre> <p>OUTPUT:</p> <pre> Enter the range:5 2 3 5 </pre>
54.	<p>Write a program to check a number is composite or prime number.</p> <p>PROGRAM:</p> <pre> #include <stdio.h> #include <stdlib.h> int main() { int n,i,c,count=0; printf("Enter the number n:"); </pre>

	<pre> scanf("%d",&n); for(i=1;i<=n;i++) { c=n%i; if(c==0) count=count+1; } if(count>2) { printf("The given number is composite number"); } else if(n==0) { printf("The given number is neither prime nor composite"); } else if(n==1) { printf("The given number is neither prime nor composite"); } else { printf("The given number is prime number"); } } </pre> <p>OUTPUT:</p> <p>Enter the number n:2 The given number is prime number</p>
55.	<p>Write a program to check a number is Armstrong number or not</p> <p>PROGRAM:</p> <pre> #include <stdio.h> #include <stdlib.h> int main() { int num,originalnum,rem,result=0; printf("Enter the three digit number:"); scanf("%d",&num); originalnum=num; while (originalnum!=0) { rem=originalnum%10; result=result+(rem*rem*rem); originalnum=originalnum/10; } if (num==result) { printf("%d is Armstrong Number",num); } } </pre>

	<pre> else { printf("%d is Not Armstrong Number",num); } } </pre> <p>OUTPUT: Enter the three digit number:371 371 is Armstrong Number</p>
56.	<p>Write a C Program check whether a given number is perfect number or not.</p> <p>PROGRAM:</p> <pre> #include <stdio.h> #include <stdlib.h> int main() { int n,div,i,result=0; printf("Enter the number:"); scanf("%d",&n); for(i=1;i<n;i++); { div=n%i; if(div==0) { result=result+div; } } if (result==n) { printf("%d is perfect number",n); } else { printf("%d is not perfect number",n); } } </pre> <p>OUTPUT: Enter the number:5 5 is not perfect number</p>
57.	<p>Write a program to accept a 5 digit number from user and perform Sum of 5 digits</p> <p>PROGRAM:</p> <pre> #include <stdio.h> #include <stdlib.h> int main() { int n,rem,result=0; printf("Enter any 5 digit number:"); </pre>

	<pre>scanf("%d",&n); while (n>0) { rem=n%10; result=result+rem; n=n/10; } printf("Sum of the given 5 digit number is:%d",result); }</pre> <p>OUTPUT: Enter any 5 digit number:12345 Sum of the given 5 digit number is:15</p>
58.	<p>Write a program to Reverse a Number</p> <p>PROGRAM:</p> <pre>#include <stdio.h> #include <stdlib.h> int main() { int n,rem,reverse=0; printf("Enter the number:"); scanf("%d",&n); while (n!=0) { rem=n%10; reverse=reverse*10+rem; n=n/10; } printf("Reversed number is:%d",reverse); }</pre> <p>OUTPUT: Enter the number:345 Reversed number is:543</p>
59.	<p>Square root of a number</p> <p>PROGRAM:</p> <pre>#include <stdio.h> #include <stdlib.h> int main() { int a; float s; printf("Enter the number:"); scanf("%d",&a); s=sqrt(a); printf("Square root of the given number:%f",s); }</pre> <p>OUTPUT: Enter the number:16 Square root of the given number:4.000000</p>
60.	<p>Count the number of digits in a number</p>

	<p>PROGRAM:</p> <pre> #include <stdio.h> #include <stdlib.h> int main() { int a,b,c,count=0; printf("Enter the number:"); scanf("%d",&a); b=a; while(b>0) { c=a%10; b=b/10; count++; } printf("No of digits are %d",count); } </pre> <p>OUTPUT:</p> <p>Enter the number:4536 No of digits are 4</p>
61.	<p>Write a program to convert binary number to decimal</p> <p>PROGRAM:</p> <pre> #include <stdio.h> #include <stdlib.h> int main() { int rem,num,dec=0,base=1; printf("Enter the binary number:"); scanf("%d",&num); while(num>0) { rem=num%10; dec=dec+rem*base; num=num/10; base=base*2; } printf("Converted decimal value is:%d",dec); } </pre> <p>OUTPUT:</p> <p>Enter the binary number:0011 Converted decimal value is:3</p>
62.	<p>Write a program to convert decimal number to binary</p> <p>PROGRAM:</p> <pre> #include <stdio.h> #include <stdlib.h> int main() { </pre>

	<pre> int num,dec,rem,base=1,i,binno=0; printf("Enter the decimal number:"); scanf("%d",&num); for (i=0;i<=dec;i++) { rem=num%2; num=num/2; binno=binno+rem*base; base=base*10; } printf("The binary num:%d",binno); } </pre> <p>OUTPUT:</p> <p>Enter the decimal number:3 The binary num:11</p>
63.	<p>Write a program to find the roots of a quadratic equation using if-else</p> <p>PROGRAM:</p> <pre> #include <stdio.h> #include <stdlib.h> int main() { float a,b,c,r1,r2,det; printf("Enter the coefficients a,b,c:"); scanf("%f %f %f",&a,&b,&c); det=b*b-(4*a*c); if (det>0) { r1=(-b+sqrt(det))/2*a; r2=(-b-sqrt(det))/2*a; printf("Roots are real"); printf("value r1:%f and value of r2:%f",r1,r2); } else if (det==0) { printf("Roots are equal"); printf("\n value of r1:%f and value of r2:%f"); } else { printf("Roots are not equal"); } } </pre> <p>OUTPUT:</p> <p>Enter the coefficients a,b,c:1 2 3 Roots are not equal</p>

64.	<p>Matrix addition</p> <p>PROGRAM:</p> <pre> #include <stdio.h> #include <stdlib.h> int main() { int a[2][2],b[2][2],c[2][2],i,j; printf("Enter the a matrix values:"); for(i=0;i<2;i++) { for(j=0;j<2;j++) { scanf("%d",&a[i][j]); } } printf("Enter the b matrix values:"); for(i=0;i<2;i++) { for(j=0;j<2;j++) { scanf("%d",&b[i][j]); } } for(i=0;i<2;i++) { for(j=0;j<2;j++) { c[i][j]=a[i][j]+b[i][j]; } } for(i=0;i<2;i++) { for(j=0;j<2;j++) { printf("%d\t",c[i][j]); } } } </pre> <p>OUTPUT:</p> <pre> Enter the a matrix values: 1 2 3 4 Enter the b matrix values: 5 6 </pre>

	<pre> 7 8 6 8 10 12 </pre>
65.	<p>Matrix subtraction</p> <p>PROGRAM:</p> <pre> #include <stdio.h> #include <stdlib.h> int main() { int a[2][2],b[2][2],c[2][2],i,j; printf("Enter the a matrix values:"); for(i=0;i<2;i++) { for(j=0;j<2;j++) { scanf("%d",&a[i][j]); } } printf("Enter the b matrix values:"); for(i=0;i<2;i++) { for(j=0;j<2;j++) { scanf("%d",&b[i][j]); } } for(i=0;i<2;i++) { for(j=0;j<2;j++) { c[i][j]=a[i][j]-b[i][j]; } } for(i=0;i<2;i++) { for(j=0;j<2;j++) { printf("%d\t",c[i][j]); } } } </pre> <p>OUTPUT:</p> <pre> Enter the a matrix values: 7 8 5 4 Enter the b matrix values: 6 2 4 3 1 6 1 1 </pre>

66.	<p>Matrix multiplication</p> <p>PROGRAM:</p> <pre> #include <stdio.h> #include <stdlib.h> int main() { int a[2][2],b[2][2],c[2][2],i,j,k; printf("Enter the a matrix values:"); for(i=0;i<2;i++) { for(j=0;j<2;j++) { scanf("%d",&a[i][j]); } } printf("Enter the b matrix values:"); for(i=0;i<2;i++) { for(j=0;j<2;j++) { scanf("%d",&b[i][j]); } } for(i=0;i<2;i++) { for(j=0;j<2;j++) { c[i][j]=0; for(k=0;k<2;k++) { c[i][j]=c[i][j]+a[i][k]*b[k][j]; } printf("%d\t",c[i][j]); } } } </pre> <p>OUTPUT:</p> <pre> Enter the a matrix values: 1 2 3 4 Enter the b matrix values: 1 2 3 4 7 10 15 22 </pre>
67.	Bubble sort

	<p>PROGRAM:</p> <pre> #include <stdio.h> #include <stdlib.h> int main() { int a[5],i,j,n,temp; printf("Enter the value for n:"); scanf("%d",&n); printf("Enter the array values:"); for (i=0;i<n;i++) { scanf("%d",&a[i]); } for(i=0;i<n;i++) { for (j=0;j<n;j++) { if(a[j]>a[j+1]) { temp=a[j+1]; a[j+1]=a[j]; a[j]=temp; } } } printf("The sorted array is:"); for (i=0;i<n;i++) { printf("%d\t",a[i]); } } </pre> <p>OUTPUT:</p> <p>Enter the value for n:5 Enter the array values:30 20 50 10 40 The sorted array is:10 20 30 40 50</p>
68.	<p>Insertion sort</p> <p>PROGRAM:</p> <pre> #include <stdio.h> #include <stdlib.h> int main() { int a[5],i,j,n,temp; printf("Enter the value for n:"); scanf("%d",&n); printf("Enter the array values:"); for(i=0;i<n;i++) { scanf("%d",&a[i]); } } </pre>

	<pre> for (i=1;i<n;i++) { j=j-1; temp=a[i]; while (j>=0&& a[j]>temp) { a[j+1]=a[j]; j--; } a[j+1]=temp; } printf("The sorted array is:"); for(i=0;i<n;i++) { printf("%d\t",a[i]); } } </pre> <p>OUTPUT:</p> <p>Enter the value for n:5 Enter the array values:50 10 30 40 20 The sorted array is:50 10 30 40 20</p>
69.	<p>To input N numbers from the user and search an element -Linear Search</p> <p>PROGRAM:</p> <pre> #include <stdio.h> #include <stdlib.h> int main() { int a[10],i,size,key,find=0; printf("Enter the size:"); scanf("%d",&size); printf("Enter the values of array a:"); for(i=0;i<size;i++) { scanf("%d",&a[i]); } printf("Enter the key value:"); scanf("%d",&key); for (i=0;i<size;i++) { if(a[i]==key) find=1; } if (find==1) printf("Key value found"); else printf("Key value not found"); } </pre>

	OUTPUT: Enter the size:5 Enter the values of array a:20 50 60 80 40 Enter the key value:10 Key value not found
70.	HCF and LCM of two numbers PROGRAM: <pre> #include <stdio.h> #include <stdlib.h> int main() { int hcf,lcm,a,b,c,n1,n2; printf("Enter any two numbers:"); scanf("%d %d",&n1,&n2); a=n1; b=n2; while(b>0) { c=b; b=a%b; a=c; } printf("HCF is:%d\n",a); lcm=(n1*n2)/a; printf("LCM is:%d",lcm); } </pre> OUTPUT: Enter any two numbers:15 2 HCF is:1 LCM is:30

71.	<p>To input 10 numbers from the user and print the largest number</p> <p>PROGRAM:</p> <pre> #include <stdio.h> #include <stdlib.h> int main() { int a[10],i,max; printf("Enter the value for array a:"); for (i=0;i<10;i++) { scanf("%d",&a[i]); } max=a[0]; for (i=1;i<10;i++) { if(a[i]>max) max=a[i]; } printf("Largest element is:%d",max); } </pre> <p>OUTPUT:</p> <p>Enter the value for array a:10 20 30 40 50 60 70 80 90 100 Largest element is:100</p>
72.	<p>To input 10 numbers from the user and print the smallest number</p> <p>PROGRAM:</p> <pre> #include <stdio.h> #include <stdlib.h> int main() { int a[10],i,min; printf("Enter the value for array a:"); for (i=0;i<10;i++) { scanf("%d",&a[i]); } min=a[0]; for (i=1;i<10;i++) { if(a[i]<min) min=a[i]; } printf("Smallest element is:%d",min); } </pre> <p>OUTPUT:</p> <p>Enter the value for array a:10 20 30 40 50 60 70 80 90 100 Smallest element is:10</p>

73.	<p>To get 10 numbers from the user and print the odd and even numbers</p> <p>PROGRAM:</p> <pre> #include <stdio.h> #include <stdlib.h> int main() { int a[10],n,i; printf("Enter the value for n:"); scanf("%d",&n); printf("Enter the array elements:"); for (i=0;i<n;i++) { scanf("%d",&a[i]); } printf("Even numbers in the array:"); for(i=0;i<n;i++) { if (a[i]%2==0) printf("%d\t",a[i]); } printf("\nOdd numbers in the array:"); for (i=0;i<n;i++) { if (a[i]%2!=0) printf("%d\t",a[i]); } } </pre> <p>OUTPUT:</p> <p>Enter the value for n:10 Enter the array elements:1 2 3 4 5 6 7 8 9 10 Even numbers in the array:2 4 6 8 10 Odd numbers in the array:1 3 5 7 9</p>
74.	<p>Write a program in C to copy the elements of one array into another array</p> <p>PROGRAM:</p> <pre> #include <stdio.h> #include <stdlib.h> int main() { int i,n,a[20],b[20]; printf("Enter the value for n:"); scanf("%d",&n); printf("Enter the array elements:"); for (i=0;i<n;i++) { scanf("%d",&a[i]); } } </pre>

	<pre> } for (i=0;i<n;i++) { b[i]=a[i]; } printf("Elements of first array:"); for (i=0;i<n;i++) { printf("%d\t",a[i]); } printf("\nElements of second array:"); for (i=0;i<n;i++) { printf("%d\t",b[i]); } } </pre> <p>OUTPUT:</p> <p>Enter the value for n:5</p> <p>Enter the array elements:10 20 30 40 50</p> <p>Elements of first array:10 20 30 40 50</p> <p>Elements of second array:10 20 30 40 50</p>
75.	<p>Write a program in C to merge two arrays of same size</p> <p>PROGRAM:</p> <pre> #include <stdio.h> #include <stdlib.h> int main() { int a[10],b[10],n1,n2,i,k,merge[20]; printf("Enter the value for n1:"); scanf("%d",&n1); printf("Enter the array1 elements:"); for (i=0;i<n1;i++) { scanf("%d",&a[i]); merge[i]=a[i]; } k=i; printf("\nEnter the value for n2:"); scanf("%d",&n2); printf("Enter array 2 elements:"); for (i=0;i<n2;i++) { scanf("%d",&b[i]); merge[k]=b[i]; k++; } printf("The merged array:"); for (i=0;i<k;i++) { </pre>

	<pre> printf("%d\t",merge[i]); } } </pre> <p>OUTPUT:</p> <p>Enter the value for n1:5 Enter the array1 elements:1 2 3 4 5 Enter the value for n2:5 Enter array 2 elements:6 7 8 9 10 The merged array:1 2 3 4 5 6 7 8 9 10</p>
76.	<p>To input N numbers from the user and print the sum of all elements in array</p> <p>PROGRAM:</p> <pre> #include <stdio.h> #include <stdlib.h> int main() { int a[10],n,i,sum=0; printf("Enter the value for n:"); scanf("%d",&n); printf("Enter the array elements:"); for (i=0;i<n;i++) { scanf("%d",&a[i]); } for (i=0;i<n;i++) { sum=sum+a[i]; } printf("Sum of elements in the array:%d",sum); } </pre> <p>OUTPUT:</p> <p>Enter the value for n:5 Enter the array elements:1 2 3 4 5 Sum of elements in the array:15</p>
77.	<p>Program to find transpose of a matrix</p> <p>PROGRAM:</p> <pre> #include <stdio.h> #include <stdlib.h> int main() { int a[10][10],i,j,n,m; printf("Enter the no of rows and columns:"); scanf("%d %d",&n,&m); printf("Enter the matrix:"); for(i=0;i<n;i++) </pre>

	<pre> { for (j=0;j<m;j++) { scanf("%d",&a[i][j]); } } for(i=0;i<m;i++) { for(j=0;j<n;j++) { printf("%d\t",a[j][i]); } printf("\n"); } } </pre> <p>OUTPUT:</p> <p>Enter the no of rows and columns:2 2</p> <p>Enter the matrix:</p> <pre> 1 2 3 4 1 3 2 4 </pre>
78.	<p>Selection sort</p> <p>PROGRAM:</p> <pre> #include <stdio.h> #include <stdlib.h> int main() { int a[50],n,i,j,temp; printf("Enter the value of n:"); scanf("%d",&n); printf("Enter the values:"); for(i=0;i<n;i++) { scanf("%d",&a[i]); } for(i=0;i<n;i++) { for(j=i+1;j<n;j++) { if(a[i]>a[j]) { temp=a[i]; a[i]=a[j]; a[j]=temp; } } } } </pre>

	<pre> } } } for(i=0;i<n;i++) { printf("%d\t",a[i]); } } </pre> <p>OUTPUT: Enter the value of n:4 Enter the values:56 78 34 89 34 56 78 89</p>
79	<p>To input a 2 dimensional array and print it in the matrix format</p> <p>PROGRAM: #include <stdio.h> #include <stdlib.h></p> <pre> int main() { int m,n,a[10][10],i,j; printf("Enter the no of rows and columns:"); scanf("%d %d",&m,&n); printf("Enter the values:"); for(i=0;i<m;i++) { for(j=0;j<n;j++) { scanf("%d",&a[i][j]); printf("%d\t",a[i][j]); } printf("\n"); } } </pre> <p>OUTPUT: Enter the no of rows and columns:3 3 Enter the values:1 2 3 4 5 6 7 8 9 1 2 3 4 5 6 7 8 9</p>
80.	<p>To find the length of a String without string function</p> <p>PROGRAM: #include <stdio.h> #include <stdlib.h></p> <pre> int main() { char str[20]; int i,count=0; printf("Enter a string:"); scanf("%s",str); </pre>

	<pre> for(i=0;str[i]!='\0';i++) { count++; } printf("Length of the string:%d",count); } </pre> <p>OUTPUT: Enter a string:hello Length of the string:5</p>
81.	<p>Strlen, strcpy, strcat, strrev</p> <p>PROGRAM:</p> <pre> #include <stdio.h> #include <stdlib.h> int main() { char name[10]="LILLY"; int num; num=strlen(name); printf("No of characters:%d",num); strcpy(name,"LILLY"); printf("\nCopied name:%s",name); strcat(name,"JANE"); printf("\nCombined name:%s",name); strrev(name); printf("\nReversed name:%s",name); } </pre> <p>OUTPUT: No of characters:5 Copied name:LILLY Combined name:LILLYJANE Reversed name:ENAJYLLIL</p>
82	<p>To concatenate two strings without string function</p> <p>PROGRAM:</p> <pre> #include <stdio.h> #include <stdlib.h> int main() { char str1[20],str2[20]; int length,j; printf("Enter the first string:"); scanf("%s",str1); printf("Enter the second string:"); scanf("%s",str2); length = 0; while (str1[length] != '\0') { length++; } } </pre>

	<pre> for (j=0;str2[j] != '\0';j++,length++) { str1[length] = str2[j]; } str1[length] = '\0'; printf("After concatenation: "); puts(str1); } </pre> <p>OUTPUT: Enter the first string:wel Enter the second string:come After concatenation: welcome</p>
83.	<p>Write a C program to find the ASCII value of a character or a string.</p> <p>PROGRAM:</p> <pre> #include <stdio.h> #include <stdlib.h> int main() { char ch; printf("Enter a character:"); scanf("%s",&ch); printf("The ascii value is :%d",ch); } </pre> <p>OUTPUT:</p> <p>Enter a character:H</p> <p>The ascii value is :72</p>
84	<p>To reverse a string without string function</p> <p>PROGRAM:</p> <pre> #include <stdio.h> #include <stdlib.h> int main() { char string[20],temp; int i,length; printf("Enter a String:"); scanf("%s",string); length=strlen(string)-1; </pre>

	<pre> for(i=0;i<strlen(string)/2;i++){ temp=string[i]; string[i]=string[length]; string[length--]=temp; } printf("Reverse string :%s",string); } </pre> <p>OUTPUT: Enter a String:HELLO Reverse string :OLLEH</p>
85	<p>Program to sort N names</p> <p>PROGRAM:</p> <pre> #include <stdio.h> #include <stdlib.h> int main() { int i,j,n; char str[100][100],s[100]; printf("Enter number of names:"); scanf("%d",&n); printf("Enter names in any order:"); for(i=0;i<n;i++) { scanf("%s",str[i]); } for(i=0;i<n;i++) { for(j=i+1;j<n;j++) { if(strcmp(str[i],str[j])>0) { strcpy(s,str[i]); strcpy(str[i],str[j]); strcpy(str[j],s); } } } printf("The sorted order of names are:\n"); for(i=0;i<n;i++) { printf("%s\n",str[i]); } } </pre> <p>OUTPUT: Enter number of names:4 Enter names in any order:john abi ram lily The sorted order of names are: abi john lily</p>

	ram
86	<p>Program to count number of vowels in a string</p> <p>PROGRAM:</p> <pre>#include <stdio.h> #include <stdlib.h> int main() { int c = 0, count = 0; char s[100]; printf("Input a string\n"); gets(s); while (s[c] != '\0') { if (s[c] == 'a' s[c] == 'A' s[c] == 'e' s[c] == 'E' s[c] == 'i' s[c] == 'I' s[c] == 'o' s[c] == 'O' s[c] == 'u' s[c] == 'U') count++; c++; } printf("Number of vowels in the string: %d", count); }</pre> <p>OUTPUT:</p> <p>Input a string hello Number of vowels in the string: 2</p>
87	<p>Program to check a string is palindrome or not</p> <p>PROGRAM:</p> <pre>#include <stdio.h> #include <stdlib.h> int main() { char string1[20]; int i, length; int flag = 0; printf("Enter a string:"); scanf("%s", string1); length = strlen(string1); for(i=0; i < length ; i++) { if(string1[i] != string1[length-i-1]) { flag = 1; break; } } if (flag==1) { printf("String is not a palindrome"); } else</pre>

	<pre> { printf("String is a palindrome"); } } </pre> <p>OUTPUT: Enter a string:malayalam String is a palindrome</p>
88.	<p>Program to remove all characters in a string except alphabet</p> <p>PROGRAM:</p> <pre> #include <stdio.h> #include <stdlib.h> #include <string.h> int main() { char line[150]; printf("Enter a string:"); fgets(line,sizeof(line),stdin); for (int i=0;j;line[i]!='\0';i++) { while (!(line[i] >= 'a' && line[i] <= 'z') && !(line[i] >= 'A' && line[i] <= 'Z') && !(line[i] == '\0')) { for (j = i; line[j] != '\0'; ++j) { line[j] = line[j + 1]; } line[j] = '\0'; } } printf("Output String: "); puts(line); } </pre> <p>OUTPUT: Enter a string:h2el2l0o Output String: hello</p>
89.	<p>To input N numbers from the user and search an element -Binary Search</p> <p>PROGRAM:</p> <pre> #include <stdio.h> #include <stdlib.h> int main() { int i,low,high,mid,n,search,array[100]; printf("Enter number of elements:"); scanf("%d",&n); printf("Enter %d integers:",n); for(i=0;i<n;i++) scanf("%d",&array[i]); printf("Enter value to find:"); scanf("%d",&search); } </pre>

	<pre> low=0; high=n-1; mid=(low+high)/2; while (low <= high) { if(array[mid]<search) { low = mid + 1; } else if (array[mid]==search) { printf("%d FOUND",search,mid+1); break; } else { high=mid-1; mid=(low+high)/2; } } if(low > high) printf("%d NOT FOUND",search); } </pre> <p>OUTPUT: Enter number of elements:4 Enter 4 integers:10 20 30 40 Enter value to find:20 20 FOUND</p>
90.	<p>Write a C program to display the following patterns</p> <p>PROGRAM:</p> <pre> #include <stdio.h> #include <stdlib.h> int main() { int i, j, k, N; printf("Enter N: "); scanf("%d", &N); k = 1; for(i=1; i<=N; i++) { for(j=1; j<=i; j++, k++) { printf("%3d", k); } printf("\n"); } } </pre> <p>OUTPUT: Enter N: 4</p>

1
2 3
4 5 6
7 8 9 10

PROGRAM:

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

```
int main()
{
    int i,j,k;
    k=1;
    for(i=1;i<=5;i+=2)
    {
        for(j=5;j>=1;j--)
        {
            if(j>i)
                printf(" ");
            else
                printf("%d ",k++);
        }
        printf("\n");
    }
}
```

OUTPUT:

1
2 3 4
5 6 7 8 9