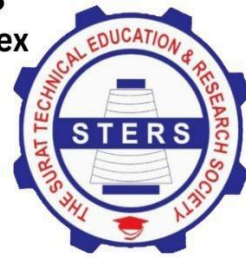




Surat Technical Education & Research Society's
Smt. Kalavatiben Fulchandbhai Vakhariya Education Complex

SASCMA EMCC & H.H. BBA &
U.J.B. BCA & Msc(IT) & STERS BA
(Psychology) & B.sc. (Data Science)

Affiliated to Veer Narmad South Gujarat University



FYBSC(IT) [SEM-1]

Practical Journal

Year : 2025-26

Subject Code: 105

Subject Name: Practical – I

Roll No.: 1014

Student Name: Prince Sureshbhai Kahar

Class : FYBSC(IT) [SEM-1]

Div: A

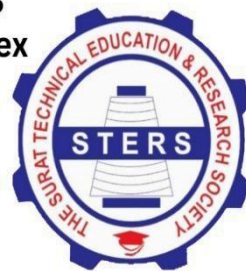
Faculty Name: Dr. Hemang Desai

Faculty Sign.: _____

Date: _____



Surat Technical Education & Research Society's
Smt. Kalavatiben Fulchandbhai Vakhariya Education Complex
**SASMA EMCC & H.H. BBA &
U.J.B. BCA & Msc(IT) & STERS BA
(Psychology) & B.sc. (Data Science)**
Affiliated to Veer Narmad South Gujarat University



INDEX

<i>SR. NO.</i>	<i>DATE</i>	<i>PROGRAM DEFINITION</i>	<i>PAG E NO.</i>	<i>SIGN</i>
1	08/10/2025	Find the second largest element in an array	1	
2	08/10/2025	Reverse a given string	3	
3	08/10/2025	Find the largest of four numbers	5	
4	08/10/2025	Print the first N even numbers	7	
5	08/10/2025	Subtract two matrices	8	
6	08/10/2025	Check whether a number is perfect	12	
7	08/10/2025	Count vowels in a string	14	
8	08/10/2025	Calculate the circumference of a circle	15	
9	08/10/2025	Delete an element from an array	16	
10	08/10/2025	Convert a string to lowercase	18	
11	08/10/2025	Search for an element in an array	19	
12	08/10/2025	Check whether a number is prime	21	
13	08/10/2025	Add two matrices	23	
14	08/10/2025	Count the number of words in a string	27	
15	08/10/2025	Multiply two matrices	29	

1. Find the second largest element in an array

```
#include<stdio.h>

int main() {
    int n , i , j ;
    printf("Enter Your Array Size : ") ;
    scanf("%d" , &n ) ;
    int arr[n] ;

    // Dynamic array
    for( i = 0 ; i < n ; i++ ) {
        printf("Enter Value of a[%d] :- " , i ) ;
        scanf("%d" , &arr[i] ) ;
    }

    // Bubble Sort
    for( i = 0 ; i < n-1 ; i++ ) {
        for( j = 0 ; j < n-i-1 ; j++ ) {
            if(arr[j]<arr[j+1]) {
                arr[j] = arr[j]*arr[j+1];
                arr[j+1] = arr[j]/arr[j+1];
                arr[j] = arr[j]/arr[j+1];
            }
        }
    }

    // Print Second Largest Element
```

```
printf("\nSecond Largest Element is %d ", arr[1]);  
return 0;  
}
```

Output :

```
PS C:\Users\Admin\Desktop\Prince\C_Program\practical> gcc ass_1014_1.c -o ass_1014_1  
PS C:\Users\Admin\Desktop\Prince\C_Program\practical> ./ass_1014_1  
Enter Your Array Size : 5  
Enter Value of a[0] :- 10  
Enter Value of a[1] :- 50  
Enter Value of a[2] :- 60  
Enter Value of a[3] :- 40  
Enter Value of a[4] :- 30  
  
Second Largest Element is 50  
PS C:\Users\Admin\Desktop\Prince\C_Program\practical> █
```

2. Reverse a given string

```
#include<stdio.h>

int main() {
    char str[100] ;
    int len = 0 ;
    printf("Enter a String : ");
    fgets( str , sizeof(str) , stdin );

    // Count Length of the String
    for( int i = 0 ; str[i] != '\0' ; i++ ) {
        len++ ;
    }
    len-- ; // Know Original length without '\0'

    // Print Reverse string Character by Character
    for( int j = len ; str[j] >= 0 ; j-- ) {
        printf("%c",str[j]);
    }
    return 0;
}
```

Output :

```
PS C:\Users\Admin\Desktop\Prince\C_Program\practical> gcc ass_1014_2.c -o ass_1014_2
PS C:\Users\Admin\Desktop\Prince\C_Program\practical> ./ass_1014_2
Enter a String : Priyansh

hsnayirP
PS C:\Users\Admin\Desktop\Prince\C_Program\practical> █
```

3. Find the largest of four numbers

```
#include<stdio.h>

int main() {
    int arr[4] , i ;

    //Dynamic Array
    for( i = 0 ; i < 4 ; i++ ) {
        printf("Enter a arr[%d] : ",i);
        scanf("%d",&arr[i]);
    }

    int large = arr[0] ; // Assumed First Element is Largest
    for( i = 1 ; i < 4 ; i++ ) {
        if(large < arr[i] ) {
            large = arr[i] ;
        }
    }

    printf("Large is : %d " , large );
    return 0;
}
```

Output :

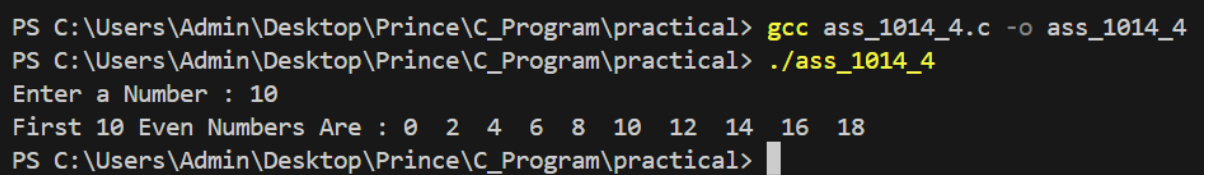
```
PS C:\Users\Admin\Desktop\Prince\C_Program\practical> gcc ass_1014_3.c -o ass_1014_3
PS C:\Users\Admin\Desktop\Prince\C_Program\practical> ./ass_1014_3
Enter a arr[0] : 5
Enter a arr[1] : 1
Enter a arr[2] : 6
Enter a arr[3] : 7
Large is : 7
PS C:\Users\Admin\Desktop\Prince\C_Program\practical> |
```


4. Print the first N even numbers

```
#include<stdio.h>

int main() {
    int n , i ;
    printf("Enter a Number : ");
    scanf("%d", &n );
    printf("First %d Even Numbers Are : " , n );
    for( i = 0 ; i < n ; i++ ) {
        printf("%d " , i * 2 );
    }
    return 0;
}
```

Output :



```
PS C:\Users\Admin\Desktop\Prince\C_Program\practical> gcc ass_1014_4.c -o ass_1014_4
PS C:\Users\Admin\Desktop\Prince\C_Program\practical> ./ass_1014_4
Enter a Number : 10
First 10 Even Numbers Are : 0 2 4 6 8 10 12 14 16 18
PS C:\Users\Admin\Desktop\Prince\C_Program\practical> 
```

5. Subtract two matrices

```
#include<stdio.h>

int main() {
    int r , c , i , j ;
    int matrix1[100][100] , matrix2[100][100] , sub[100][100] ;
    printf("Enter Row : ") ;
    scanf("%d" , &r );
    printf("Enter Column : ");
    scanf("%d" , &c );

    printf("\n");
    printf("Value of matrix 1 : \n");

    for( i = 0 ; i < r ; i++ ) {
        for( j = 0 ; j < c ; j++ ) {
            printf("matrix1[%d][%d] : " , i , j );
            scanf("%d" , &matrix1[i][j] );
        }
    }

    printf("\n");
    printf("Value of matrix 2 : \n");

    for( i = 0 ; i < r ; i++ ) {
        for( j = 0 ; j < c ; j++ ) {
```

```
        printf("matrix2[%d][%d] : ", i , j );
        scanf("%d" , &matrix2[i][j] );
    }
}

for( i = 0 ; i < r ; i++ ) {
    for( j = 0 ; j < c ; j++ ) {
        sub[i][j] = matrix1[i][j] - matrix2[i][j] ;
    }
}

printf("\n");
printf("matrix 1 : \n");

for( i = 0 ; i < r ; i++ ) {
    for( j = 0 ; j < c ; j++ ) {
        printf("%d\t" , matrix1[i][j] );
    }
    printf("\n");
}

printf("\n");
printf("matrix 2 : \n");

for( i = 0 ; i < r ; i++ ) {
    for( j = 0 ; j < c ; j++ ) {
        printf("%d\t" , matrix2[i][j] );
```

```
    }  
    printf("\n");  
}  
  
printf("\n");  
printf("Substraction : \n");  
  
for( i = 0 ; i < r ; i++ ) {  
    for( j = 0 ; j < c ; j++ ) {  
        printf("%d\t" , sub[i][j] );  
    }  
    printf("\n");  
}  
return 0;  
}
```

Output :

```
PS C:\Users\Admin\Desktop\Prince\C_Program\practical> gcc ass_1014_5.c -o ass_1014_5
PS C:\Users\Admin\Desktop\Prince\C_Program\practical> ./ass_1014_5
Enter Row : 2
Enter Column : 2

Value of matrix 1 :
matrix1[0][0] : 1
matrix1[0][1] : 5
matrix1[1][0] : 3
matrix1[1][1] : 4

Value of matrix 2 :
matrix2[0][0] : 9
matrix2[0][1] : 1
matrix2[1][0] : 3
matrix2[1][1] : 7

matrix 1 :
1      5
3      4

matrix 2 :
9      1
3      7

Substraction :
-8     4
0      -3
PS C:\Users\Admin\Desktop\Prince\C_Program\practical> 
```

6. Check whether a number is perfect

```
#include <stdio.h>

int main() {
    int num , sum = 0 ;
    printf("Enter a number: ");
    scanf("%d", &num);

    for (int i = 1; i <= num / 2; i++) {
        if (num % i == 0) {
            sum += i;
        }
    }

    if ( sum == num ) {
        printf("%d is a perfect number.\n", num);
    }
    else {
        printf("%d is not a perfect number.\n", num);
    }

    return 0;
}
```

Output :

```
PS C:\Users\Admin\Desktop\Prince\C_Program\practical> gcc ass_1014_6.c -o ass_1014_6
PS C:\Users\Admin\Desktop\Prince\C_Program\practical> ./ass_1014_6
Enter a number: 6
6 is a perfect number.
PS C:\Users\Admin\Desktop\Prince\C_Program\practical> ./ass_1014_6
Enter a number: 10
10 is not a perfect number.
PS C:\Users\Admin\Desktop\Prince\C_Program\practical> █
```

7. Count vowels in a string

```
#include<stdio.h>

int main() {

    char str[1000] ;

    int vowel = 0 ;

    printf("Enter Your String : ");

    fgets( str , sizeof ( str ) , stdin );

    for ( int i = 0 ; str[i] != '\0' ; i++ ) {

        if( str[i] == 'A' || str[i] == 'E' || str[i] == 'I' || str[i] == 'O' || str[i] == 'U' || str[i] ==
'a' || str[i] == 'e' || str[i] == 'i' || str[i] == 'o' || str[i] == 'u' ) {

            vowel++ ; // if condition is true then vowel increase by 1

        }

    }

    printf("There are %d Vowels in %s " , vowel , str );

    return 0;

}
```

Output :

```
PS C:\Users\Admin\Desktop\Prince\C_Program\practical> gcc ass_1014_7.c -o ass_1014_7
PS C:\Users\Admin\Desktop\Prince\C_Program\practical> ./ass_1014_7
Enter Your String : Priyansh
There are 2 Vowels in Priyansh

PS C:\Users\Admin\Desktop\Prince\C_Program\practical> █
```


8. Calculate the circumference of a circle

```
#include<stdio.h>

#define pi 3.14 // Constant Declare

int main() {

    float r ;

    printf("Enter Radius : ");

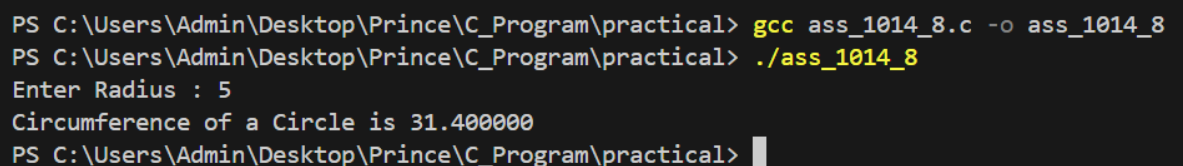
    scanf("%f" , &r );

    printf("Circumference of a Circle is %f " , 2*pi*r); // Calculate and
Print Circumference of a Circle

    return 0;

}
```

Output :



```
PS C:\Users\Admin\Desktop\Prince\C_Program\practical> gcc ass_1014_8.c -o ass_1014_8
PS C:\Users\Admin\Desktop\Prince\C_Program\practical> ./ass_1014_8
Enter Radius : 5
Circumference of a Circle is 31.400000
PS C:\Users\Admin\Desktop\Prince\C_Program\practical> █
```

9. Delete an element from an array

```
#include<stdio.h>

int main() {
    int size , pos , i ;
    printf("Enter Array size : ");
    scanf("%d" , &size);
    int arr[size] ;
    for( i = 0 ; i < size ; i++ ) {
        printf("Enter arr[%d] : " , i );
        scanf("%d" , &arr[i] );
    }
    printf("Which Index Number You Have To Delete ( 0 - %d ) : " , size-1 );
    scanf("%d" , &pos );
    for( i = pos ; i < size ; i++ ) {
        arr[i] = arr[i+1] ; // Shift Element Left
    }
    size-- ; // Reduce Array Size
    // Print New Array
    printf("Array after Deletion : ");
    for ( i = 0 ; i < size ; i++ ) {
        printf("%d " , arr[i] );
    }
    return 0;
}
```

Output :

```
PS C:\Users\Admin\Desktop\Prince\C_Program\practical> gcc ass_1014_9.c -o ass_1014_9
PS C:\Users\Admin\Desktop\Prince\C_Program\practical> ./ass_1014_9
Enter Array size : 5
Enter arr[0] : 10
Enter arr[1] : 20
Enter arr[2] : 30
Enter arr[3] : 40
Enter arr[4] : 50
Which Index Number You Have To Delete ( 0 - 4 ) : 3
Array after Deletion : 10 20 30 50
PS C:\Users\Admin\Desktop\Prince\C_Program\practical> █
```

10.Convert a string to lowercase

```
#include<stdio.h>

int main() {

    char str[1000] ;

    printf("Enter a Strting : ");

    fgets( str , sizeof(str) , stdin );

    for ( int i = 0 ; str[i] != '\0'; i++ ) {

        if( str[i] >= 'A' && str[i] <= 'Z' ) {

            str[i] += 32 ;

        }

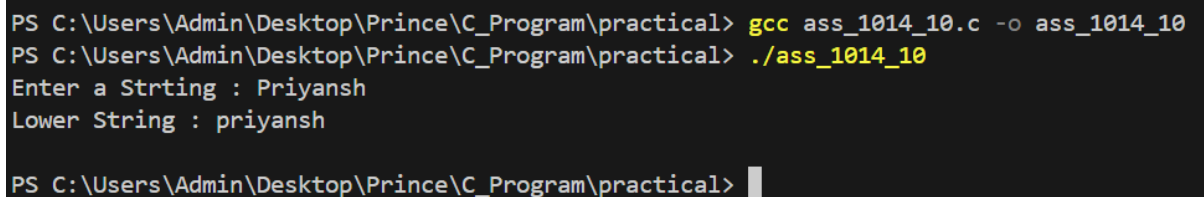
    }

    printf("Lower String : %s " , str);

    return 0;

}
```

Output :



```
PS C:\Users\Admin\Desktop\Prince\C_Program\practical> gcc ass_1014_10.c -o ass_1014_10
PS C:\Users\Admin\Desktop\Prince\C_Program\practical> ./ass_1014_10
Enter a Strting : Priyansh
Lower String : priyansh

PS C:\Users\Admin\Desktop\Prince\C_Program\practical> █
```

11. Search for an element in an array

```
#include<stdio.h>

int main() {
    int size , i , find , a ;
    printf("Enter Array Size : ");
    scanf("%d" , &size );
    int arr[size] ;
    for ( i = 0 ; i < size ; i++ ) {
        printf("Enter arr[%d] : " , i );
        scanf("%d" , &arr[i] );
    }
    printf("Which Element You Have To Find : ") ;
    scanf("%d" , &find );
    for ( i = 0 ; i < size ; i++ ) {
        if( find == arr[i] ) {
            printf("%d is Available on Index of %d \n" , find , i );
            a++ ;
        }
    }
    if( !a ) {
        printf("%d is not Found " , find );
    }
    return 0;
}
```

Output :

```
PS C:\Users\Admin\Desktop\Prince\C_Program\practical> gcc ass_1014_11.c -o ass_1014_11
PS C:\Users\Admin\Desktop\Prince\C_Program\practical> ./ass_1014_11
Enter Array Size : 5
Enter arr[0] : 10
Enter arr[1] : 20
Enter arr[2] : 10
Enter arr[3] : 30
Enter arr[4] : 50
Which Element You Have To Find : 10
10 is Available on Index of 0
10 is Available on Index of 2
PS C:\Users\Admin\Desktop\Prince\C_Program\practical> █
```

12.Check whether a number is prime

```
#include<stdio.h>

int main() {
    int n , prime = 0 ;
    printf("Enter a value : ");
    scanf("%d" , &n );
    for ( int i = 1 ; i <= n ; i++ ) {
        if ( n % i == 0 ) {
            prime++ ;
        }
    }
    if ( prime == 2 ) {
        printf("%d is Prime Number " , n);
    }
    else {
        printf("%d is Non - Prime Number " , n);
    }
    return 0;
}
```

Output :

```
PS C:\Users\Admin\Desktop\Prince\C_Program\practical> gcc ass_1014_12.c -o ass_1014_12
PS C:\Users\Admin\Desktop\Prince\C_Program\practical> ./ass_1014_12
Enter a value : 10
10 is Non - Prime Number
PS C:\Users\Admin\Desktop\Prince\C_Program\practical> ./ass_1014_12
Enter a value : 7
7 is Prime Number
PS C:\Users\Admin\Desktop\Prince\C_Program\practical> █
```


13.Add two matrices

```
#include<stdio.h>

int main() {
    int r , c , i , j ;
    int matrix1[100][100] , matrix2[100][100] , add[100][100] ;
    printf("Enter Row : ") ;
    scanf("%d",&r);
    printf("Enter Column : ");
    scanf("%d",&c);

    printf("\n");
    printf("Value of matrix 1 : \n");

    for( i = 0 ; i < r ; i++ ) {
        for( j = 0 ; j < c ; j++ ) {
            printf("matrix1[%d][%d] : " , i , j );
            scanf("%d" , &matrix1[i][j]);
        }
    }

    printf("\n");
    printf("Value of matrix 2 : \n");
```

```
for( i = 0 ; i < r ; i++ ) {  
    for( j = 0 ; j < c ; j++ ) {  
        printf("matrix2[%d][%d] : " , i , j );  
        scanf("%d" , &matrix2[i][j]);  
    }  
}  
  
for( i = 0 ; i < r ; i++ ) {  
    for( j = 0 ; j < c ; j++ ) {  
        add[i][j] = matrix1[i][j] + matrix2[i][j] ;  
    }  
}  
  
printf("\n");  
printf("matrix 1 : \n");  
  
for( i = 0 ; i < r ; i++ ) {  
    for( j = 0 ; j < c ; j++ ) {  
        printf("%d\t",matrix1[i][j]);  
    }  
    printf("\n");  
}  
  
printf("\n");
```

```
printf("matrix 2 : \n");

for( i = 0 ; i < r ; i++ ) {
    for( j = 0 ; j < c ; j++ ) {
        printf("%d\t",matrix2[i][j]);
    }
    printf("\n");
}

printf("\n");
printf("Addition : \n");

for( i = 0 ; i < r ; i++ ) {
    for( j = 0 ; j < c ; j++ ) {
        printf("%d\t",add[i][j]);
    }
    printf("\n");
}
return 0;
}
```

Output :

```
PS C:\Users\Admin\Desktop\Prince\C_Program\practical> gcc ass_1014_13.c -o ass_1014_13
PS C:\Users\Admin\Desktop\Prince\C_Program\practical> ./ass_1014_13
Enter Row : 2
Enter Column : 2

Value of matrix 1 :
matrix1[0][0] : 1
matrix1[0][1] : 5
matrix1[1][0] : 6
matrix1[1][1] : 7

Value of matrix 2 :
matrix2[0][0] : 2
matrix2[0][1] : 4
matrix2[1][0] : 6
matrix2[1][1] : 1

matrix 1 :
1      5
6      7

matrix 2 :
2      4
6      1

Addition :
3      9
12     8
PS C:\Users\Admin\Desktop\Prince\C_Program\practical> 
```

14.Count the number of words in a string

```
#include<stdio.h>

int main() {
    char str[1000] ;
    int i , count = 0 ;
    printf("Enter a String : ");
    fgets( str , sizeof(str) , stdin );
    for ( i = 0 ; str[i] != '\0' ; i++ ) {
        if ( ( str[i] == ' ' || str[i] == '\t' || str[i] == '\n' ) && ( i > 0 && str[i-1] != ' ' &&
str[i-1] != '\t' && str[i] != '\n' ) ) {
            count++ ;
        }
    }

    if( i > 0 && str[i-1] != ' ' && str[i-1] != '\t' && str[i] != '\n' ) {
        count++;
    }

    printf("Number of words : %d " , count);
    return 0;
}
```

Output :

```
PS C:\Users\Admin\Desktop\Prince\C_Program\practical> gcc ass_1014_14.c -o ass_1014_14
PS C:\Users\Admin\Desktop\Prince\C_Program\practical> ./ass_1014_14
Enter a String : priyansh k khatri
Number of words : 3
PS C:\Users\Admin\Desktop\Prince\C_Program\practical> █
```

15. Multiply two matrices

```
#include<stdio.h>

int main() {
    int r , c , i , j ;
    int matrix1[100][100] , matrix2[100][100] , multi[100][100] ;
    printf("Enter Row : ") ;
    scanf("%d",&r);
    printf("Enter Column : ");
    scanf("%d",&c);

    printf("\n");
    printf("Value of matrix 1 : \n");

    for( i = 0 ; i < r ; i++ ) {
        for( j = 0 ; j < c ; j++ ) {
            printf("matrix1[%d][%d] : " , i , j );
            scanf("%d" , &matrix1[i][j]);
        }
    }

    printf("\n");
    printf("Value of matrix 2 : \n");

    for( i = 0 ; i < r ; i++ ) {
        for( j = 0 ; j < c ; j++ ) {
            printf("matrix2[%d][%d] : " , i , j );
```

```
scanf("%d" , &matrix2[i][j]);  
}  
}  
  
for( i = 0 ; i < r ; i++ ) {  
    for( j = 0 ; j < c ; j++ ) {  
        multi[i][j] = matrix1[i][j] * matrix2[i][j] ;  
    }  
}  
  
printf("\n");  
printf("matrix 1 : \n");  
  
for( i = 0 ; i < r ; i++ ) {  
    for( j = 0 ; j < c ; j++ ) {  
        printf("%d\t",matrix1[i][j]);  
    }  
    printf("\n");  
}  
  
printf("\n");  
printf("matrix 2 : \n");  
  
for( i = 0 ; i < r ; i++ ) {  
    for( j = 0 ; j < c ; j++ ) {  
        printf("%d\t",matrix2[i][j]);  
    }  
}
```



```
printf("\n");  
}  
  
printf("\n");  
printf("Multiplicatin : \n");  
  
for( i = 0 ; i < r ; i++ ) {  
    for( j = 0 ; j < c ; j++ ) {  
        printf("%d\t",multi[i][j]);  
    }  
    printf("\n");  
}  
return 0;  
}
```

Output :

```
PS C:\Users\Admin\Desktop\Prince\C_Program\practical> gcc ass_1014_15.c -o ass_1014_15
PS C:\Users\Admin\Desktop\Prince\C_Program\practical> ./ass_1014_15
Enter Row : 2
Enter Column : 2

Value of matrix 1 :
matrix1[0][0] : 1
matrix1[0][1] : 5
matrix1[1][0] : 4
matrix1[1][1] : 9

Value of matrix 2 :
matrix2[0][0] : 1
matrix2[0][1] : 3
matrix2[1][0] : 2
matrix2[1][1] : 4

matrix 1 :
1      5
4      9

matrix 2 :
1      3
2      4

Multiplicatin :
1      15
8      36
PS C:\Users\Admin\Desktop\Prince\C_Program\practical> |
```