



Green University of Bangladesh
Department of Computer Science and Engineering(CSE)
Faculty of Sciences and Engineering
Semester:2nd (Summer, Year:2022), B.Sc. in CSE (Day)

Continuous Lab Performance
Course Title: Structured Programming Lab
Course Code: CSE 104 / Section: DK

Continuous Lab Performance No – 01 Solution paper

Student Details

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[For Teachers use only: **Don't Write Anything inside this box**]

Marks:	Signature:
Comments:	Date:

1. Write an algorithm and implement a program in C to take an integer number from the user and print its prime digits and their sum of factorial

Solution :

Code :

```
#include<stdio.h>
#include<math.h>
int main()
{
    int n,i,j,temp,digit,index=0,fact,sum=0,flag;
    printf("Enter A number:\n");
    scanf("%d",&n);
    digit=(int)log10(n)+1;
    int arrA[digit+1];
    while(n!=0)
    {
        temp=n%10;
        arrA[index]=temp;
        index++;
        n/=10;
    }
    printf("Prime digit is:\n");
    for(i=0;i<index;i++)
    {
        flag=0;
        if(arrA[i]==0 || arrA[i]==1)
            flag=1;
        for(j=2;j<=arrA[i]/2;j++)
```

```

{
    if(arrA[i]%j==0)
    {
        flag=1;
        break;
    }
}

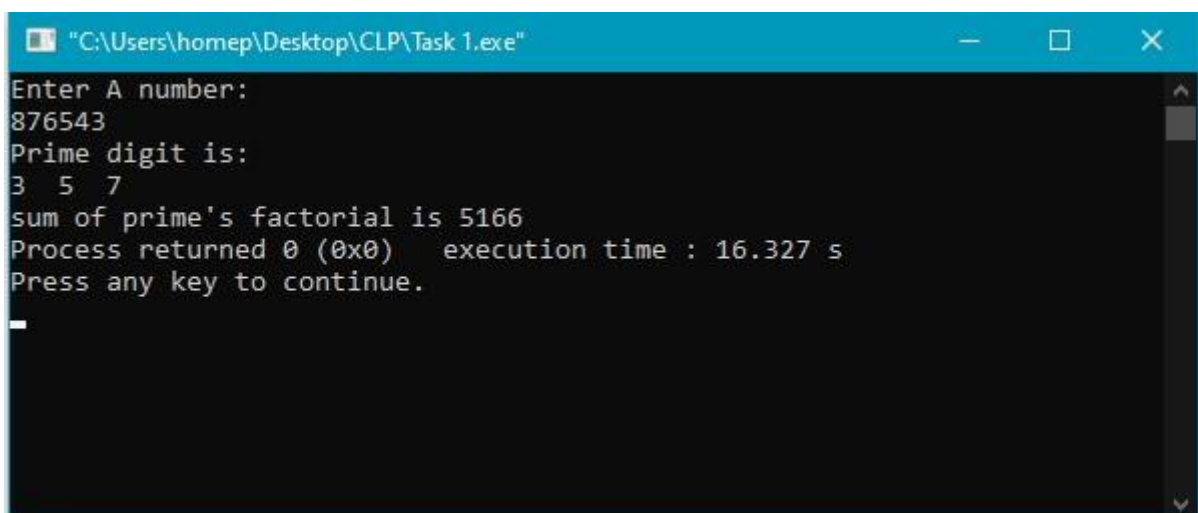
if(flag==0)
{
    printf("%d ",arrA[i]);

    fact=1;
    for(j=1;j<=arrA[i];j++)
    {
        fact=fact*j;
    }
    sum=sum+fact;
}
}

printf("\nsum of prime's factorial is %d",sum);
return 0;
}

```

Output :



```

"C:\Users\homep\Desktop\CLP\Task 1.exe"
Enter A number:
876543
Prime digit is:
3 5 7
sum of prime's factorial is 5166
Process returned 0 (0x0)   execution time : 16.327 s
Press any key to continue.

```

2. Write an algorithm and implement a program in C to find the sum of all the digits in the odd position of a number.

Solution :

Code :

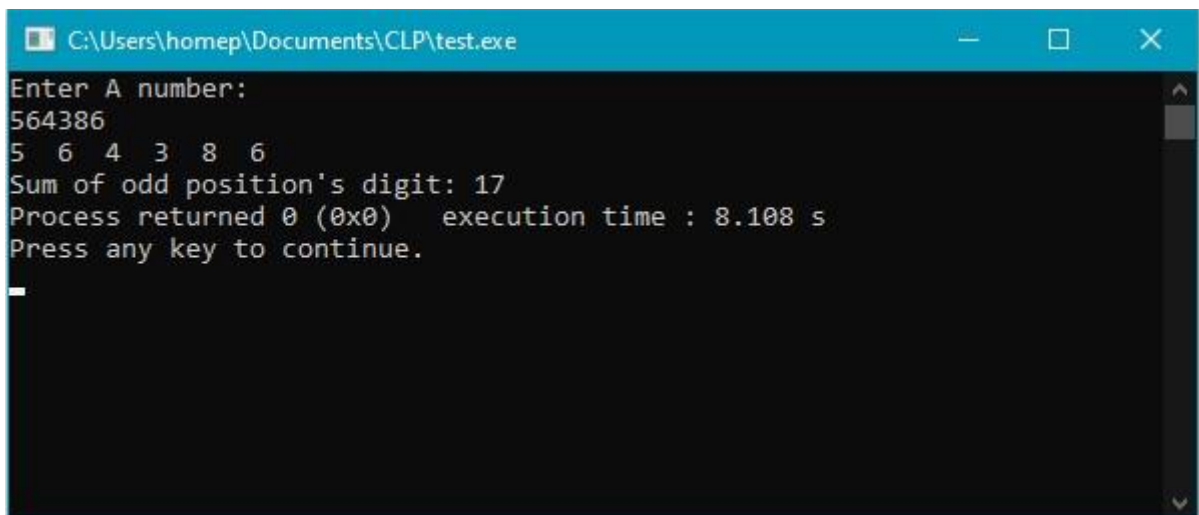
```
#include<stdio.h>
#include<math.h>
int main()
{
    int digit,n,i,temp,temp2,index=0,sum=0;
    printf("Enter A number:\n");
    scanf("%d",&n);
    digit=(int)log10(n)+1;
    int arrA[digit];

    while(n!=0)
    {
        temp=n%10;
        arrA[index]=temp;
        index++;
        n/=10;
    }

    for( i = 0; i<digit/2; i++){
        temp2 = arrA[i];
        arrA[i] = arrA[digit-i-1];
        arrA[digit-i-1] = temp2;
    }
    for(i = 0; i < digit; i++){
        printf("%d ", arrA[i]);
    }
```

```
for(i=0;i<digit;i++)
{
    if(i%2==0)
    {
        sum=sum+arrA[i];
    }
}
printf("\nSum of odd position's
digit: %d",sum);
return 0;
}
```

Output :



The screenshot shows a Windows command prompt window with the title bar "C:\Users\homep\Documents\CLP\test.exe". The window contains the following text:

```
Enter A number:
564386
5 6 4 3 8 6
Sum of odd position's digit: 17
Process returned 0 (0x0)   execution time : 8.108 s
Press any key to continue.
```

A cursor is visible on the line "Press any key to continue.".

3. Given an array Arr[] of integers and two numbers, n and m, perform n number of right to left and m number of left to right movements on the array. Return the updated array to be printed as a single line of space - separated integers

Solution :

Code :

```
#include<stdio.h>
int main()
{
    int i, N,temp,n,m;

    printf("Enter the size of array:\n");
    scanf("%d",&N);
    int a[N];

    printf("Enter %d integer numbers\n", N);
    for(i = 0; i < N; i++)
        scanf("%d", &a[i]);

    printf("Enter the number of positions for right to left shift\n");
    scanf("%d", &n);
    printf("Enter the number of positions for left to right shift\n");
    scanf("%d", &m);

    while(m)
    {
        if(m>0)
        {
            temp = a[0];
            for(i = 0; i < N - 1; i++)
                a[i] = a[i + 1];
```

```

a[N - 1] = temp;
    }

    m--;
}
while(n)
{
    if(n>0)
    {
        temp = a[N - 1];
        for(i = N - 1; i > 0; i--)
            a[i] = a[i - 1];

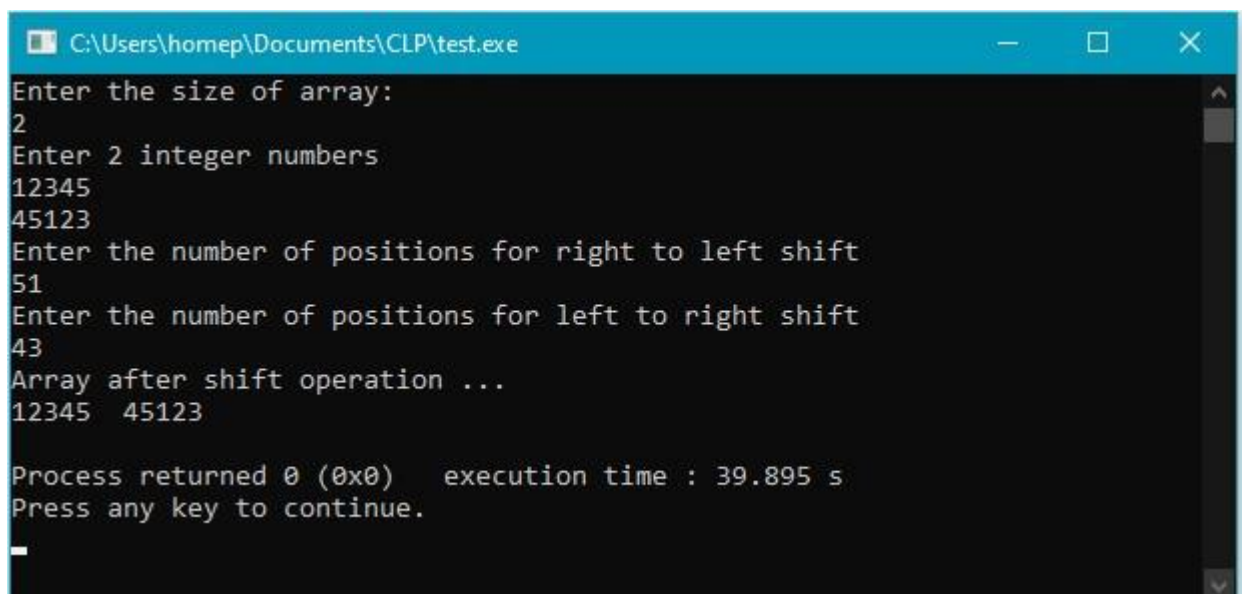
        a[0] = temp;
    }
    n--;
}

printf("Array after shift operation ...\n");
for(i = 0; i < N; i++)
    printf("%d ", a[i]);

printf("\n");
return 0;
}

```

Output :



```

C:\Users\homep\Documents\CLP\test.exe
Enter the size of array:
2
Enter 2 integer numbers
12345
45123
Enter the number of positions for right to left shift
51
Enter the number of positions for left to right shift
43
Array after shift operation ...
12345 45123

Process returned 0 (0x0)   execution time : 39.895 s
Press any key to continue.

```