Institute of Computer Technology
B. Tech. Computer Science and Engineering

Sub: ESFP – I
Course Code: 2CSE102

Practical – 10

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Q.1.Problem Definition:

Definition:

You're given an integer N. Write a program to calculate the sum of all the digits of N.
Input Format:
The first line contains an integer T, the total number of test cases.
Then follow T lines, each
line contains an integer N.
Output Format:
For each test case, calculate the sum of digits of N, and display it in a new line.
Constraints:
1<=T<=1000
1<=N<=100000
Expected Sample Input and Output:
3
12345
15
31203
9

2123
8

Explanation:

In sample input and output,

1. The first line indicates the number of test cases.
2. The second and third line indicates the first test case value input and their output.
3. Fourth and fifth line indicates second test case value input and their output.
4. Sixth and seventh line indicate the third test case value input and their output.

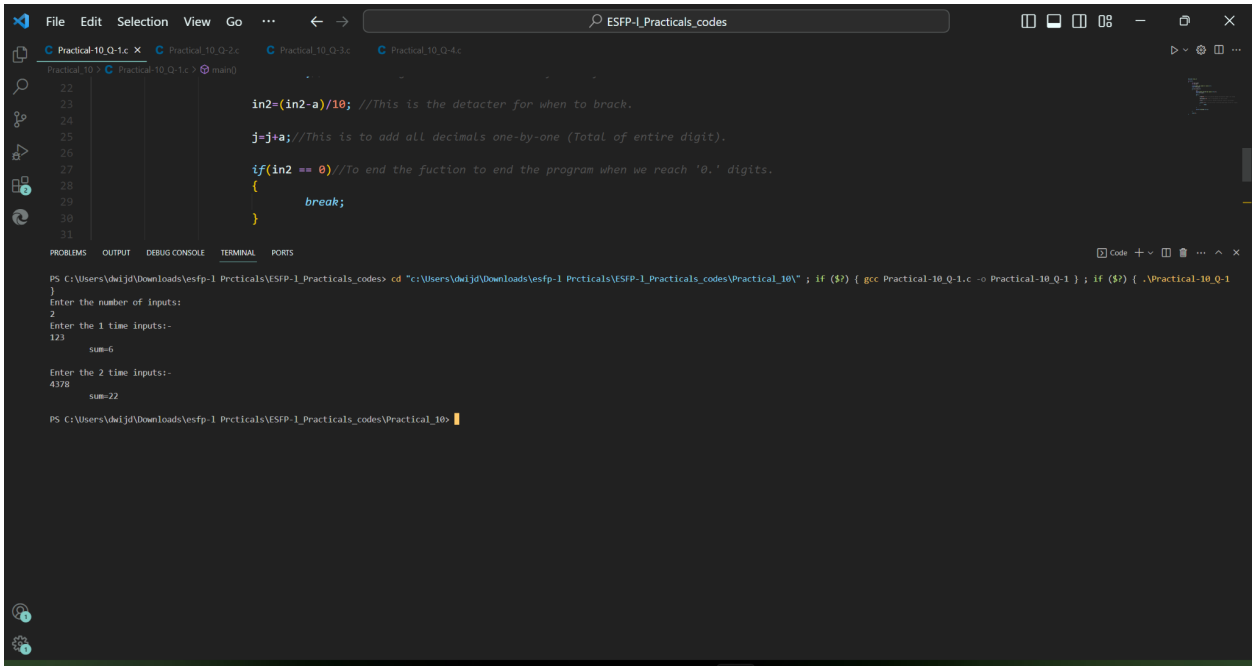
Solution:

Code:-

```
#include <stdio.h>

int main()
{
        int in1,i,in2;
        int j=0,a=0;

        printf("Enter the number of inputs:\n");
        scanf("%d",&in1);

        for(i=0;i<in1;i++)
        {
                j=0;
                printf("Enter the %d time
inputs:-\n",i+1);
                scanf("%d",&in2);
```

```
                for(;;)
                {
                        a=in2%10;//This is to get every
decimal one-by-one of the number 'in2' written.

                        in2=(in2-a)/10; //This is the
detector for when to brack.

                        j=j+a;//This is to add all
decimals one-by-one (Total of entire digit).

                        if(in2 == 0)//To end the function
to end the program when we reach '0.' digits.
                        {
                                break;
                        }

                }

                printf("\tsum=%d \n\n",j);

        }

        return 0;
}
```

Output:-




```
PS C:\Users\dwijd\Downloads\esfp-l Prcticals\ESFP-l_Practicals_codes> cd "c:\Users\dwijd\
}
Enter the number of inputs:
2
Enter the 1 time inputs:-
123
        sum=6

Enter the 2 time inputs:-
4378
        sum=22

PS C:\Users\dwijd\Downloads\esfp-l Prcticals\ESFP-l_Practicals_codes\Practical_10>
```

Q.2.Problem Definition:

Definition:

If Give an integer N . Write a program to obtain the sum of the first and last digits of this
number.

Input Format:

The first line contains an integer T, the total number of test cases. Then follow T lines, each
line contains an integer N.

Output Format:

For each test case, display the sum of first and last digits of N in a new line.
Constraints:
1<=T<=1000
1<=N<=1000000
Sample Input:
3
1234
124894
242323

Sample Output:
5
5
5

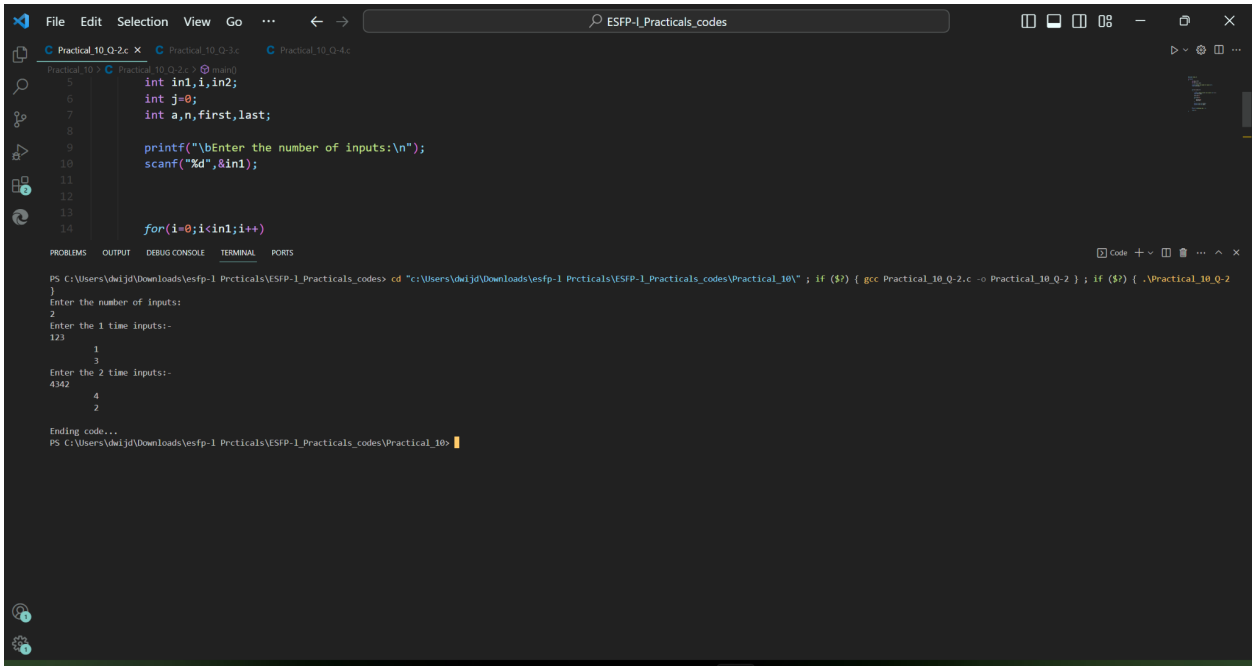
Solution:

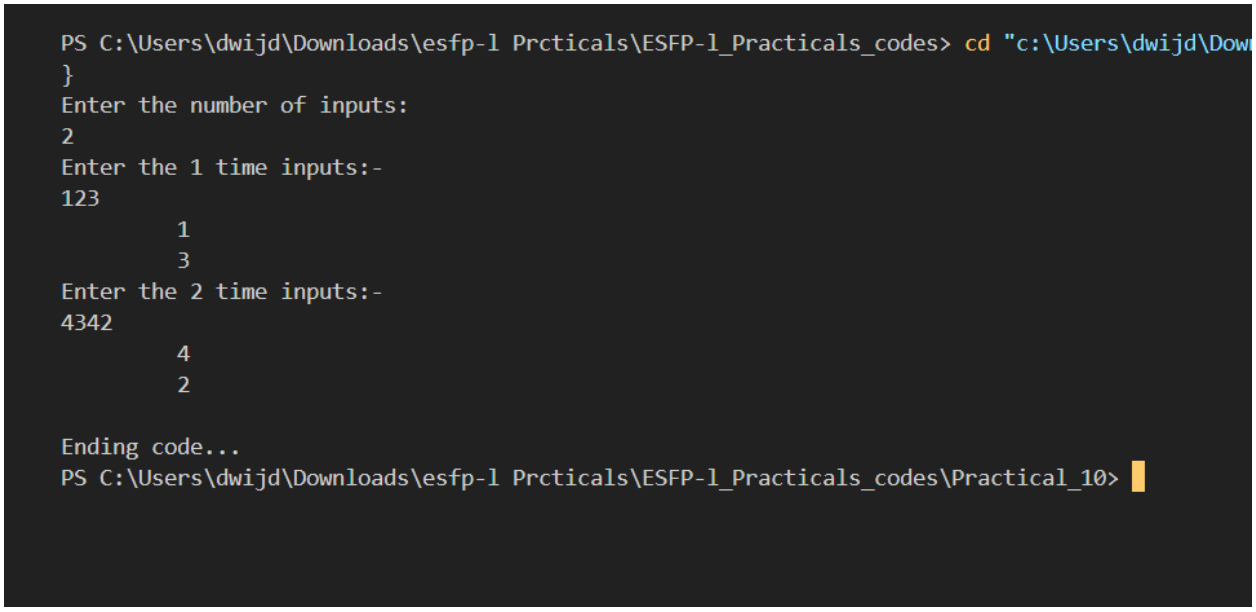
Code:-

```c
#include <stdio.h>

int main()
{
        int in1,i,in2;
        int j=0;
        int a,n,first,last;

        printf("\bEnter the number of inputs:\n");
        scanf("%d",&in1);
```

```
        for(i=0;i<in1;i++)
        {
          //  j=0;
             printf("\bEnter the %d time
inputs:-\n",i+1);
            scanf("%d",&in2);

            last=in2%10;

            while(in2>10)
            {
                in2=in2/10;
                first=in2;
            }

            printf("\t %d \n",first);
            printf("\t %d \n",last);


        }
        printf("\n\bEnding code...");

        return 0;
}
```

Output:-





Q.3.Problem Definition:

Chef is a big fan of Coldplay. Every Sunday, he will drive to a park taking M minutes to reach
there, and during the ride he will play a single song on a loop. Today, he has got the latest

song which is in total S minutes long. He is interested to know how many times will he be
able to play the song completely.

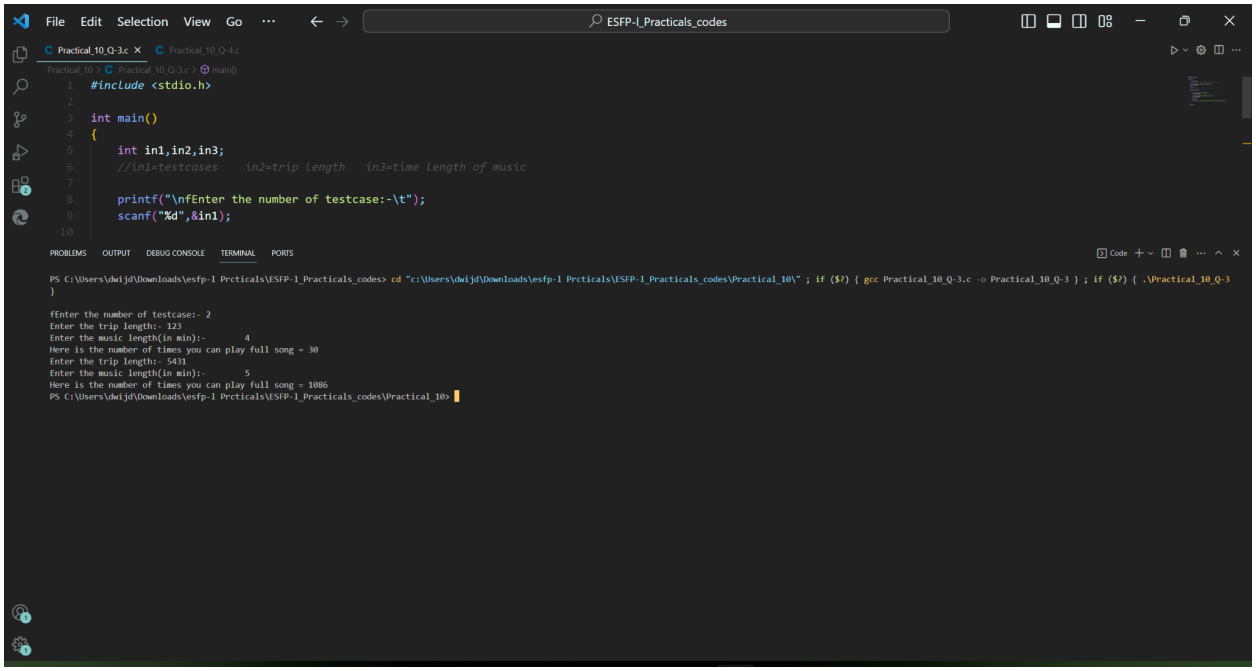
Solution:

Code:-

```
#include <stdio.h>

int main()
{
    int in1,in2,in3;
    //in1=testcases    in2=trip length   in3=time length
of music

    printf("\nfEnter the number of testcase:-\t");
    scanf("%d",&in1);

    int y,x;
    //y=for loop integer   x=equation(to find number for
music replay)

    for(y=1;y<=in1;y++)
    {

        printf("Enter the trip length:-\t");
        scanf("%d",&in2);

        printf("Enter the music length(in min):-\t");
        scanf("%d",&in3);

        x=in2/in3;
```

```
        printf("Here is the number of times you can play
full song = %d\n",x);

    }

    return 0;
}
```

Output:-



```
PS C:\Users\dwijd\Downloads\esfp-l Prcticals\ESFP-l_Practicals_codes> cd "c:\Users\dwijd\Dow
}

fEnter the number of testcase:- 2
Enter the trip length:- 123
Enter the music length(in min):-        4
Here is the number of times you can play full song = 30
Enter the trip length:- 5431
Enter the music length(in min):-        5
Here is the number of times you can play full song = 1086
PS C:\Users\dwijd\Downloads\esfp-l Prcticals\ESFP-l_Practicals_codes\Practical_10>
```

Q.4.Problem Definition:

Definition:

Chefland has 2 different types of coconut, type A and type B. Type A contains only x_a milliliters of coconut water and type B contains only x_b grams of coconut pulp. Chef's nutritionist has advised him to consume X_a milliliters of coconut water and X_b grams of coconut pulp every week in the summer. Find the total number of coconuts (type A + type B) that Chef should buy each week to keep himself active in the hot weather.

Solution:

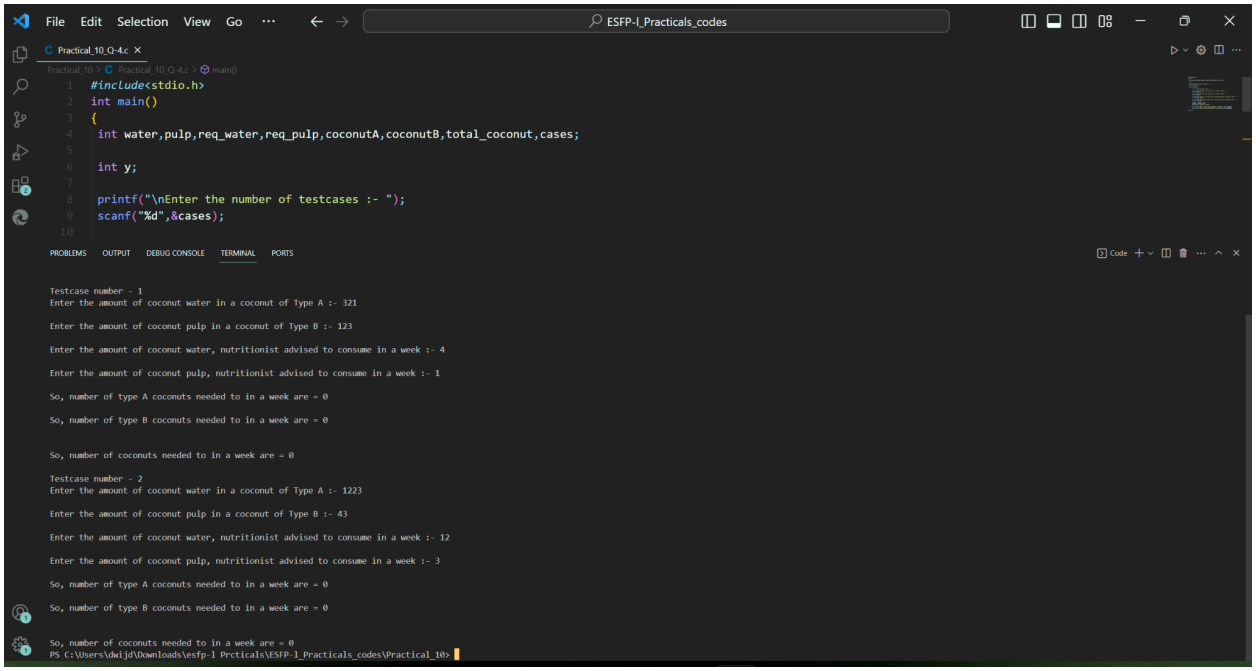
Code:-

```c
#include<stdio.h>
int main()
{
 int
water,pulp,req_water,req_pulp,coconutA,coconutB,total_coc
onut,cases;

 int y;

 printf("\nEnter the number of testcases :- ");
 scanf("%d",&cases);
```

```
 for(y=1;y<=cases;y++)
    {
        printf("\nTestcase number - %d",y);

        printf("\nEnter the amount of coconut water in a
coconut of Type A :- ");
        scanf("%d",&water);

        printf("\nEnter the amount of coconut pulp in a
coconut of Type B :- ");
        scanf("%d",&pulp);

        printf("\nEnter the amount of coconut water,
nutritionist advised to consume in a week :- ");
        scanf("%d",&req_water);

        printf("\nEnter the amount of coconut pulp,
nutritionist advised to consume in a week :- ");
        scanf("%d",&req_pulp);

        coconutA = req_water / water ;
        coconutB = req_pulp / pulp ;
        total_coconut = coconutA + coconutB;

        printf("\nSo, number of type A coconuts needed to
in a week are = %d\n",coconutA);
        printf("\nSo, number of type B coconuts needed to
in a week are = %d\n",coconutB);
        printf("\n\nSo, number of coconuts needed to in a
week are = %d\n",total_coconut);
    }
 return 0;
```

```
}
```

Output:-


File Edit Selection View Go ···
ESFP-I_Practicals_codes
Practical_10_Q-4.c
#include<stdio.h>
int main()
{
int water,pulp,req_water,req_pulp,coconutA,coconutB,total_coconut,cases;
int y;
printf("\nEnter the number of testcases :- ");
scanf("%d",&cases);
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
Code
Testcase number - 1
Enter the amount of coconut water in a coconut of Type A :- 321
Enter the amount of coconut pulp in a coconut of Type B :- 123
Enter the amount of coconut water, nutritionist advised to consume in a week :- 4
Enter the amount of coconut pulp, nutritionist advised to consume in a week :- 1
So, number of type A coconuts needed to in a week are = 0
So, number of type B coconuts needed to in a week are = 0
So, number of coconuts needed to in a week are = 0
Testcase number - 2
Enter the amount of coconut water in a coconut of Type A :- 1223
Enter the amount of coconut pulp in a coconut of Type B :- 43
Enter the amount of coconut water, nutritionist advised to consume in a week :- 12
Enter the amount of coconut pulp, nutritionist advised to consume in a week :- 3
So, number of type A coconuts needed to in a week are = 0
So, number of type B coconuts needed to in a week are = 0
So, number of coconuts needed to in a week are = 0
PS C:\Users\dwijd\Downloads\esfp-1 Prcticals\ESFP-I_Practicals_codes\Practical_10>

```
PS C:\Users\dwijd\Downloads\esfp-l Prcticals\ESFP-l_Practicals_codes> cd "c:\Users\dwijd\Downloads\esfp-l Prc
}

Enter the number of testcases :- 2

Testcase number - 1
Enter the amount of coconut water in a coconut of Type A :- 321

Enter the amount of coconut pulp in a coconut of Type B :- 123

Enter the amount of coconut water, nutritionist advised to consume in a week :- 4

Enter the amount of coconut pulp, nutritionist advised to consume in a week :- 1

So, number of type A coconuts needed to in a week are = 0

So, number of type B coconuts needed to in a week are = 0


So, number of coconuts needed to in a week are = 0

Testcase number - 2
Enter the amount of coconut water in a coconut of Type A :- 1223

Enter the amount of coconut pulp in a coconut of Type B :- 43

Enter the amount of coconut water, nutritionist advised to consume in a week :- 12

Enter the amount of coconut pulp, nutritionist advised to consume in a week :- 3

So, number of type A coconuts needed to in a week are = 0

So, number of type B coconuts needed to in a week are = 0


So, number of coconuts needed to in a week are = 0
PS C:\Users\dwijd\Downloads\esfp-l Prcticals\ESFP-l_Practicals_codes\Practical_10>
```