VIT - Vellore

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BCSE102P_Structured and Object Oriented Programming Lab_VL2024250502365

VIT V_Structured and OOP_Lab 3_COD_Medium_Pointer Arithmetic

Attempt : 1
Total Mark : 20
Marks Obtained : 20

Section 1 : Coding

1. Problem Statement

Lea is learning pointer arithmetic. Her teacher tasked her with writing a program to calculate the sum of an arithmetic progression (AP) based on the initial term (a1), the common difference (d), and the number of terms (n). Help her by writing the code using pointer arithmetic.

Formula: Sum of AP = (n * (2 * a1 + (n - 1) * d)) / 2.

Answer

```
// You are using GCC
#include<stdio.h>
int main(){
    int a1;
```

```
    int d,n;
    scanf("%d",&a1);
    scanf("%d",&d);
    scanf("%d",&n);
    int *pa1 = &a1;
    int *pd = &d;
    int *pn = &n;
    printf("%d",((*pn)*(2*(*pa1)+(*pn-1)*(*pd))/2));
    return 0;
}
```

Status : Correct **Marks : 10/10**

2. Problem Statement

Rasika is taking a programming class, and her teacher has assigned her a task to write a program that reads an integer n(input must be greater than 1000) and finds the sum of its maximum and minimum digits present in n.

She wants to impress her teacher by writing a program that utilizes pointers and pointer arithmetic. Help her accomplish this task.

Answer

```
// You are using GCC
#include<stdio.h>
int s(int *n){
    int max = -1;
    int min = 10;
    int a =0;
    while(*n != 0){
        a = *n%10;
        if(a>max){
            max = a;
        }
        if(a<min){
            min = a;
        }
        *n = *n/10;
    }
    printf("%d",(max+min));
```

```
    return 0;
}
int main(){
    int n;
    scanf("%d",&n);
    if(n>=1000){
        s(&n);
    }else{
        printf("Invalid input");
    }
    return 0;
}
```

Status : Correct *Marks : 10/10*