PL ASSIGNMENT 1

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1. Program to find smallest among 3 numbers using nested if else.

```c
#include<stdio.h>
int main(){
    int a,b,c;
    printf("Enter 3 numbers:\n");
    scanf("%d %d %d",&a,&b,&c);
    if(a<b){
        if(a<c)
        printf("\n%d is the smallest number\n",a);
        else if(a>c)
        printf("\n%d is the smallest number\n",c);
    }
    else if(a>b)
        printf("\n%d is the smallest number\n",b);
}
```

2. Write a C program to generate Fibonacci series and check if a number belongs to Fibonacci series or not.(use while loop)

```c
#include<stdio.h>
int main(){
        int f=0,s=1,sum=0,num,i=0;
        printf("Enter a number:\n");
        scanf("%d",&num);
        while(f<=num){
                if(num==f)
                        {
                                printf("\n%d exists in the fibonacci series\n",num);
                                i=1;
                                break;
                        }
                sum=f+s;
                f=s;
                s=sum;
        }
        if(!i)
                printf("\n%d does not exists in the fibonacci series\n",num);
}
```

3. Write a C program to display sum of even and odd numbers between 1 and 100 using for loop.

```c
#include<stdio.h>
int main()
{
        int even=0,odd=0,i=1;
        for(;i<=100;i++){
                if(i%2==0)
```

```c
                        even+=i;
                else
                        odd+=i;
        }
        printf("Sum of Odd Numbers between 1-100 are %d\nSum of Even Numbers between 1-100
are %d\n",odd,even);

}
```

4. Write a menu driven C program to display month of the year based on the number entered by the user(switch case).

```c
#include<stdio.h>
int main(){
        int Month;
        printf("Enter month number:\n");
        scanf("%d",&Month);
        switch(Month){
                case 1: printf("\nMonth %d is January\n",Month); break;
                case 2: printf("\nMonth %d is February\n",Month); break;
                case 3: printf("\nMonth %d is March\n",Month); break;
                case 4: printf("\nMonth %d is April\n",Month); break;
                case 5: printf("\nMonth %d is May\n",Month); break;
                case 6: printf("\nMonth %d is June\n",Month); break;
                case 7: printf("\nMonth %d is July\n",Month); break;
                case 8: printf("\nMonth %d is August\n",Month); break;
                case 9: printf("\nMonth %d is September\n",Month); break;
                case 10: printf("\nMonth %d is October\n",Month); break;
                case 11: printf("\nMonth %d is November\n",Month); break;
                case 12: printf("\nMonth %d is December\n",Month); break;
                default: printf("\nEnter a valid Month of the Year(number)"); break;
        }

}
```

5. Write a C program to find square of a number using functions.

```c
#include<stdio.h>

int square(int n){
        int sq=n*n;
        printf("\nThe square of %d is %d",n,sq);
}

int main(){
        int n;
        printf("Enter Number:\n");
        scanf("%d",&n);
        square(n);

}
```

6. Write a C program to print the sum of prime numbers between given two positive numbers using user defined function "sum".

```c
#include<stdio.h>

int sum(int start, int end){
        int sum=0,j=1,ctr=0;
        for(;start<=end;start++){
                ctr=0;
                for(j=1;j<=start;j++){
                        if(start%j==0)
                                ctr++;
                }
                if(ctr==2)
                        sum+=start;
        }
        printf("\nThe sum = %d",sum);
}

int main(){
        int start,end;
        printf("Enter the range:\n");
        scanf("%d %d",&start,&end);

        sum(start,end);
}
```

7. Differentiate between call by value and call by reference with an example.

```c
#include<stdio.h>

void callByValue(int p){
        p=25;//In call by values we cannot alter the values of actual variables through function calls.
}

void callByReference(int *q){
        *q=100;//In call by reference we can alter the values of variables through function calls.
}

int main(){
        int a=5,b=10;

        callByValue(a);
        callByReference(&b);

        printf("%d %d",a,b);//The value of a remains the same, whereas value of b is changed.

}
```

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