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	Date: 20/5/21	Week Number: 3

1 **Write a function to reverse a given number and check whether a given number is palindrome or not.**

Input:

Enter the number

121

Output:

The Number 121 is Palindrome

Program:

```c
#include<stdio.h>

int rev(int a);

int main()
{
    int n,r;
    int rev(int a);
    printf("Enter a number");
    scanf("%d",&n);
    r=rev(n);
    if(n==r)
        printf("Number is a palindrome");
    else
        printf("Number is not a palindrome");
    return 0;
}

int rev(int n)
{
    int reverse=0;
    while(n>0)
    {
        reverse=(reverse*10)+(n%10);
        n=n/10;
    }
    return reverse;
}
```

Output Screenshot:

```
C:\Users\Renita Kurian\Documents\Academic\Second Semester\C Lab\W3>gcc Palindrome.c

C:\Users\Renita Kurian\Documents\Academic\Second Semester\C Lab\W3>a
Enter a number
13431
Number is a palindrome
```

2 **Write a C program to compute GCD of three numbers using functions.**

Input:

Enter the values of a,b and c

10 4 16

Output:

GCD(10,4,16)=2

Program:

GCD.c > gcd(int, int)

```c
#include<stdio.h>

int gcd(int m, int n);

int main()
{
    int a,b,c;
    printf("Enter 3 numbers:  ");
    scanf("%d %d %d",&a,&b,&c);
    int r = gcd(a,b);
    r=gcd(c,r);
    printf("%d",r);
    return 0;
}

int gcd(int m, int n)
{
    while(m!=n)
    {
        if(m>n)
        m=m-n;
        else
        n=n-m;
    }
    return m;
}
```

Output Screenshot:

```
C:\Users\Renita Kurian\Documents\Academic\Second Semester\C Lab\W3>gcc GCD.c

C:\Users\Renita Kurian\Documents\Academic\Second Semester\C Lab\W3>a
Enter 3 numbers:  12 18 24
6
```

3	Write a program in C to check Armstrong and perfect numbers using functions. **Input:** Input any number: 153 **Output:** The 153 is an Armstrong number. The 153 is not a Perfect number. **Input:** Input any number: 28 **Output:** The 28 is not an Armstrong number. The 28 is a Perfect number.
	Program:

ArmstrongAndPerfectNumbers.c > perfect(int)

```c
#include<stdio.h>

int armstrong(int n);
int perfect(int n);

int main()
{
    int n;
    printf("Enter a number");
    scanf("%d",&n);
    if(armstrong(n))
    printf("Number is an armstrong number \n");
    else{
    printf("Number is not an armstrong number \n");}

    if(perfect(n))
    printf("Number is a perfect number");
    else
    printf("Number is not a perfect number");
}
```

```c

int armstrong(int n)
{
    int a=0,n1=n;
    while(n>0)
    {
        int d=n%10;
        a=a+d*d*d;
        n=n/10;
    }
    if(n1==a)
    return 1;
    else
    return 0;
}

int perfect(int n)
{
    int p=0,num=n;
    for(int i=1;i<num;i++)
    {
        if(num%i==0)
        p=p+i;
    }
    if(p==num)
    return 1;
    else
    return 0;
}
```

Output Screenshot:

```
C:\Users\Renita Kurian\Documents\Academic\Second Semester\C Lab\W3>gcc ArmstrongAndPerfectNumbers.c

C:\Users\Renita Kurian\Documents\Academic\Second Semester\C Lab\W3>a
Enter a number123
Number is not an armstrong number
Number is not a perfect number
C:\Users\Renita Kurian\Documents\Academic\Second Semester\C Lab\W3>
```

4 Write a program in C to check whether a number is a prime number or not using function

Input:

Input a positive number : 12

Output:

The number 12 is not a prime number

Program:

PrimeNo.c > main()

```c
#include<stdio.h>

int factors(int n);

int main()
{
    int n;
    printf("Enter a number");
    scanf("%d",&n);
    int fact=factors(n);
    if(fact==0)
    printf("Prime");
    else
    printf("Not Prime");
    return 0;
}

int factors(int n)
{
    int f=0;
    for(int i=2;i<=(n/2);i++)
    {
        if(n%i==0)
        f=f+1;
    }
    return f;
}
```

Output Screenshot:

```
C:\Users\Renita Kurian\Documents\Academic\Second Semester\C Lab\W3>gcc PrimeNo.c

C:\Users\Renita Kurian\Documents\Academic\Second Semester\C Lab\W3>a
Enter a number14
Not Prime
C:\Users\Renita Kurian\Documents\Academic\Second Semester\C Lab\W3>
```

5 Write a program in C to convert decimal number to octal number using function

Input:

Input any decimal number : 25

Output:

Equivalent Octal Number: 17

Program:

Octal.c > oct(int)

```c
#include<stdio.h>

int oct(int a);

int main()
{
    int n,o;
    printf("Enter a number");
    scanf("%d",&n);
    o=oct(n);
    printf("%d",o);
    return 0;
}

int oct(int n)
{
    int o=0,k=1;
    while(n>0)
    {
        int d=n%8;
        o=d*k+o;
        k=k*10;
        n=n/8;
    }
    return o;
}
```

Output Screenshot:

```
C:\Users\Renita Kurian\Documents\Academic\Second Semester\C Lab\W3>gcc Octal.c

C:\Users\Renita Kurian\Documents\Academic\Second Semester\C Lab\W3>a
Enter a number25
31
```

6 Write a program in C to find the sum of the series 1!/1+2!/2+3!/3+4!/4+5!/5 using function.

Output:

The sum of the series is : 34

Program:

Series.c > series(int)

```c
#include<stdio.h>

int series(int a);

int main()
{
    int n;
    printf("Enter a number");
    scanf("%d",&n);
    printf("%d",series(n));
    return 0;
}

int series(int n)
{
    int sum=0;
    for(int i=1;i<=n;i++)
    {
        int fact=1;
        for(int j=1;j<=i;j++)
        {
            fact=fact*j;
        }
        sum=sum+fact/i;
    }
    return sum;
}
```

Output Screenshot:

```
C:\Users\Renita Kurian\Documents\Academic\Second Semester\C Lab\W3>gcc Series.c

C:\Users\Renita Kurian\Documents\Academic\Second Semester\C Lab\W3>a
Enter a number7
874
```