Name:Jacob V Sanoj	SRN: PES1UG20EC083	Section: F1
	Date: 25-05-2021	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 **Input:** Enter the number **Output:** 123 Number 123 is Not Palindrome

	Program:
	#include <stdio.h>
	
	void main()
	{
	int n;
	printf("Enter the number that you want to check if it is a palindrome : ");
	scanf("%d", &n);
	
	palindrome(n);
	}

```
void palindrome(int n)
{
int r, q = 0, temp;
temp = n;
while(n != 0)
{
r = n % 10;
n = n/10;
q = q * 10 + r;
}
printf("The reverse of the number is : %d\n", q);

if(temp == q)
printf("The number is a palindrome\n");
else
printf("The number is not a palindrome\n");
}
```

Output Screenshot:

```
jacob@jacob-Vostro-3501:~/Documents/Classes/Sem2/C_LAB/Code$ ./Question1_Week3
Enter the number that you want to check if it is a palindrome : 123
The reverse of the number is : 321
The number is not a palindrome
jacob@jacob-Vostro-3501:~/Documents/Classes/Sem2/C_LAB/Code$ ./Question1_Week3
Enter the number that you want to check if it is a palindrome : 191
The reverse of the number is : 191
The number is a palindrome
jacob@jacob-Vostro-3501:~/Documents/Classes/Sem2/C_LAB/Code$
```

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:
	#include <stdio.h>
	
	int main()
	{
	int n1, n2, n3, ans1, ans2;
	
	printf("Enter the values of the digits\n");
	scanf("%d%d%d", &n1, &n2, &n3);
	
	ans1 = GCD(n1, n2);
	ans2 = GCD(n3, n2);
	printf("The GCD of %d, %d and %d = %d\n", n1, n2, n3, ans2);
	}
	
	int GCD(int a, int b)
	{
	while(a != b)
	{
	if(a > b)

```
a = a - b;
else
b = b - a;
}
return a;
}
```

Output Screenshot:

```
jacob@jacob-Vostro-3501:~/Documents/Classes/Sem2/C_LAB/Code$ ./Question2_Week3
Enter the values of the digits
22
56
11
The GCD of 22, 56 and 11 = 1
jacob@jacob-Vostro-3501:~/Documents/Classes/Sem2/C_LAB/Code$
```

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:

```
#include <stdio.h>
```

```
int armstrong(int n)
{
int digit,sum = 0,num;
num = n;

while(num!=0)
{
digit = num % 10;
sum += digit * digit * digit;
num = num / 10;
}

return(n == sum);
}

int perfect(int n)
{
int sum = 0,num;
num=n;

for(int i = 1; i < num; i++)
{
if(num % i == 0)
sum += i;
}
```

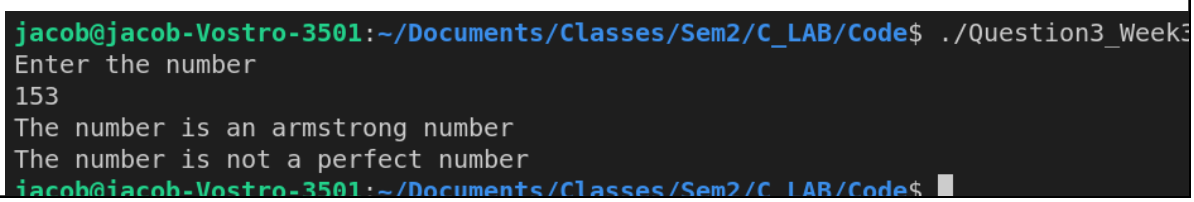
```
return(n == sum);
}

int main()
{
int n;
printf("Enter the number\n");
scanf("%d", &n);

if(armstrong(n))
printf("The number is an armstrong number\n");
else
printf("The number is not an armstrong number\n");

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

Output Screenshot:



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 **Input:** Input a positive number : 13 **Output:** The number 13 is a prime number

	Program:
	#include<stdio.h>
	int prime1(int n);
	int main()
	{
	int n,prime;
	
	printf("Enter a number : ");
	scanf("%d",&n);
	
	prime = prime1(n);
	
	if(prime == 1)
	printf("%d is a prime number\n", n);
	else
	printf("%d is not a prime number\n", n);
	}

```
int prime1(int n)
{
int i = 2;

while(i <= n/2)
{
if(n%i == 0)
return 0;

else
i++;
}

return 1;
}
```

```
jacob@jacob-Vostro-3501:~/Documents/Classes/Sem2/C_LAB/Code$ ./Question4_Week3
Enter a number : 19
19 is a prime number
jacob@jacob-Vostro-3501:~/Documents/Classes/Sem2/C_LAB/Code$
```

Output Screenshot:

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

Input:

Input any decimal number : 15

Output:
Equivalent Octal Number: 31

Program:

```
#include <stdio.h>


int main()
{
int n, oct;


printf("Enter the value of decimal that you want to convert\n");
scanf("%d", &n);


oct = conversion(n);
printf("The octal of %d is : %d\n", n, oct);
}


int conversion(int n)
{
int oct = 0, temp = 1;


while (n != 0)
{
oct = oct + n%8 + temp;
n = n/8;
temp = temp * 10;
```

```
}
return oct;
}
```

Output Screenshot:

```
jacob@jacob-Vostro-3501:~/Documents/Classes/Sem2/C_LAB/Code$ ./Question5_Week3
Enter the value of decimal that you want to convert
32
The octal of 32 is : 15
jacob@jacob-Vostro-3501:~/Documents/Classes/Sem2/C_LAB/Code$
```

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:

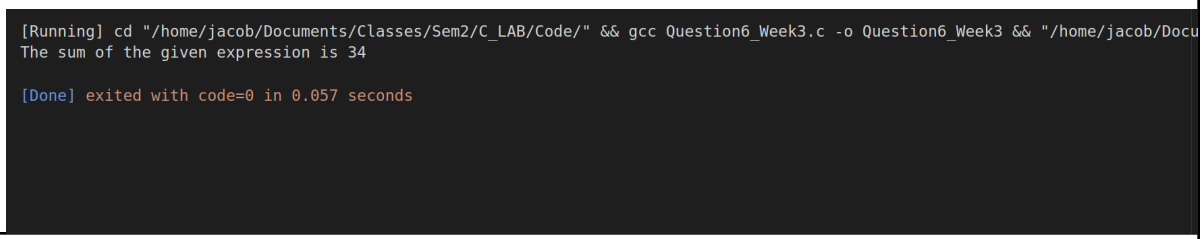
```
#include <stdio.h>
int fact(int n);

int main()
{
int sum = 0;
sum = fact(1)/1 + fact(2)/2 + fact(3)/3 + fact(4)/4 + fact(5)/5;
printf("The sum of the given expression is %d\n", sum);
}

int fact(int n)
{
int sum = 1;
```

```
for(int i = 1; i <= n; i++)
sum = sum * i;
return sum;
}
```

Output Screenshot:



1

Practice Programs

Write a program to display Fibonacci series in C within a range using a function

Input:

Enter range: 5

Output:

The fibonacci series is:

0 1 1 2 3 5

Program:

```
#include <stdio.h>
void fibonacci(int range)
{
int a = 0, b = 1, c;
while (a <= range)
```

```
{
printf("%d\n", a);
c = a + b;
a = b;
b = c;
}
}
int main()
{
int range;
printf("Enter the range:");
scanf("%d", &range);
printf("The fibonacci series is:\n");
fibonacci(range);
return 0;
}
```

Output Screenshot:

```
jacob@jacob-Vostro-3501:~/Documents/Classes/Sem2/C_LAB/Code$ ./Practice1_Week3
Enter the range:12
The fibonacci series is:
0
1
1
2
3
5
8
jacob@jacob-Vostro-3501:~/Documents/Classes/Sem2/C_LAB/Code$
```

2	Write a program to check triangle validity when angles are given using functions. **Input:** Enter three angles of triangle: 30 40 60 **Output:** Triangle is not valid **Input:** Enter three angles of triangle: 30 60 90 **Output:** Triangle is valid

	Program:
	#include <stdio.h>
	void angles(int a, int b, int c)
	{
	int angle = a + b + c;
	if (angle == 180 && a > 0 && b > 0 && c > 0)
	printf("The triangle is valid\n");
	else
	printf("The triangle is invalid\n");
	}
	int main()
	{
	int a, b, c;
	printf("Enter the values of angles of triangle\n");

```
scanf("%d%d%d", &a, &b, &c);

angles(a, b, c);

}
```

Output Screenshot: