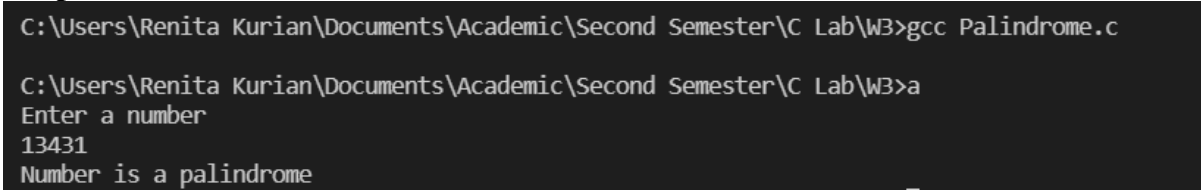
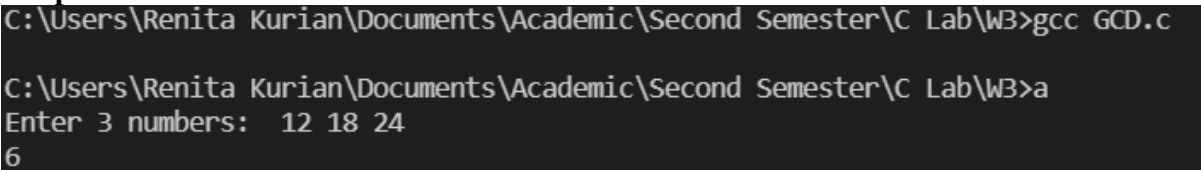


Name: Renita Kurian	SRN: PES1UG20CS331	Section: N
	Date: 20/5/21	Week Number: 3

1	<p>Write a function to reverse a given number and check whether a given number is palindrome or not.</p> <p><b>Input:</b></p> <p>Enter the number</p> <p>121</p> <p><b>Output:</b></p> <p>The Number 121 is Palindrome</p>
	<p><b>Program:</b></p> <pre> C Palindrome.c &gt; rev(int) 1  #include&lt;stdio.h&gt; 2 3  int rev(int a); 4 5  int main() 6  { 7      int n,r; 8      int rev(int a); 9      printf("Enter a number"); 10     scanf("%d",&amp;n); 11     r=rev(n); 12     if(n==r) 13         printf("Number is a palindrome"); 14     else 15         printf("Number is not a palindrome"); 16     return 0; 17 } 18 19 int rev(int n) 20 { 21     int reverse=0; 22     while(n&gt;0) 23     { 24         reverse=(reverse*10)+(n%10); 25         n=n/10; 26     } 27     return reverse; 28 } </pre>
	<p><b>Output Screenshot:</b></p> 

## Week 3: Programs on User Defined Functions

2	<p>Write a C program to compute GCD of three numbers using functions.</p> <p><b>Input:</b></p> <p>Enter the values of a,b and c</p> <p>10 4 16</p> <p><b>Output:</b></p> <p>GCD(10,4,16)=2</p>
	<p><b>Program:</b></p> <pre> C GCD.c &gt; gcc gcd(int, int) 1  #include&lt;stdio.h&gt; 2 3  int gcd(int m, int n); 4 5  int main() 6  { 7      int a,b,c; 8      printf("Enter 3 numbers: "); 9      scanf("%d %d %d",&amp;a,&amp;b,&amp;c); 10     int r = gcd(a,b); 11     r=gcd(c,r); 12     printf("%d",r); 13     return 0; 14 } 15 16 int gcd(int m, int n) 17 { 18     while(m!=n) 19     { 20         if(m&gt;n) 21             m=m-n; 22         else 23             n=n-m; 24     } 25     return m; 26 } </pre>
	<p><b>Output Screenshot:</b></p>  <pre> C:\Users\Renita Kurian\Documents\Academic\Second Semester\C Lab\W3&gt;gcc GCD.c C:\Users\Renita Kurian\Documents\Academic\Second Semester\C Lab\W3&gt;a Enter 3 numbers: 12 18 24 6 </pre>

**Week 3: Programs on User Defined Functions**

**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:**

```
C ArmstrongAndPerfectNumbers.c > perfect(int)
1  #include<stdio.h>
2
3  int armstrong(int n);
4  int perfect(int n);
5
6  int main()
7  {
8      int n;
9      printf("Enter a number");
10     scanf("%d",&n);
11     if(armstrong(n))
12         printf("Number is an armstrong number \n");
13     else{
14         printf("Number is not an armstrong number \n");}
15
16     if(perfect(n))
17         printf("Number is a perfect number");
18     else
19         printf("Number is not a perfect number");
20 }
```

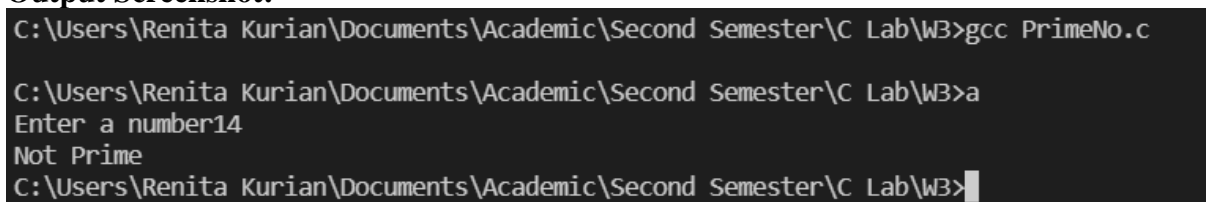
**Week 3: Programs on User Defined Functions**

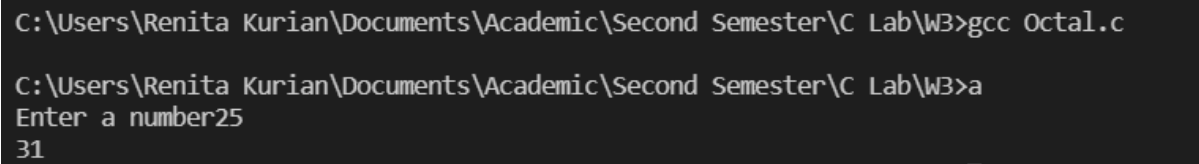
```
21
22  int armstrong(int n)
23  {
24      int a=0,n1=n;
25      while(n>0)
26      {
27          int d=n%10;
28          a=a+d*d*d;
29          n=n/10;
30      }
31      if(n1==a)
32          return 1;
33      else
34          return 0;
35  }
36
37  int perfect(int n)
38  {
39      int p=0,num=n;
40      for(int i=1;i<num;i++)
41      {
42          if(num%i==0)
43              p=p+i;
44      }
45      if(p==num)
46          return 1;
47      else
48          return 0;
49  }
```

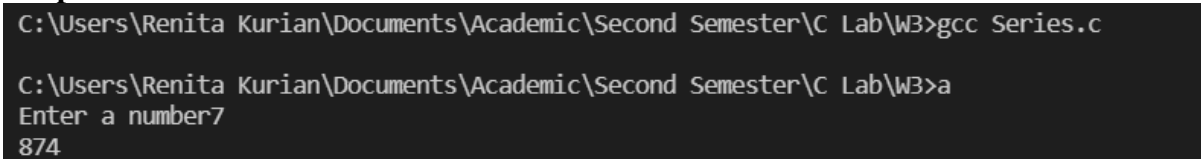
**Output Screenshot:**

```
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>|
```

## Week 3: Programs on User Defined Functions

4	<p>Write a program in C to check whether a number is a prime number or not using function</p> <p><b>Input:</b> Input a positive number : 12</p> <p><b>Output:</b> The number 12 is not a prime number</p>
	<p><b>Program:</b></p> <pre> C PrimeNo.c &gt; main() 1  #include&lt;stdio.h&gt; 2 3  int factors(int n); 4 5  int main() 6  { 7      int n; 8      printf("Enter a number"); 9      scanf("%d",&amp;n); 10     int fact=factors(n); 11     if(fact==0) 12         printf("Prime"); 13     else 14         printf("Not Prime"); 15     return 0; 16 } 17 18 int factors(int n) 19 { 20     int f=0; 21     for(int i=2;i&lt;=(n/2);i++) 22     { 23         if(n%i==0) 24             f=f+1; 25     } 26     return f; 27 }         </pre>
	<p><b>Output Screenshot:</b></p>  <pre> C:\Users\Renita Kurian\Documents\Academic\Second Semester\C Lab\WB&gt;gcc PrimeNo.c C:\Users\Renita Kurian\Documents\Academic\Second Semester\C Lab\WB&gt;a Enter a number14 Not Prime C:\Users\Renita Kurian\Documents\Academic\Second Semester\C Lab\WB&gt;         </pre>

5	<p>Write a program in C to convert decimal number to octal number using function</p> <p><b>Input:</b></p> <p>Input any decimal number : 25</p> <p><b>Output:</b></p> <p>Equivalent Octal Number: 17</p>
	<p><b>Program:</b></p> <pre> C Octal.c &gt; oct(int) 1  #include&lt;stdio.h&gt; 2 3  int oct(int a); 4 5  int main() 6  { 7      int n,o; 8      printf("Enter a number"); 9      scanf("%d",&amp;n); 10     o=oct(n); 11     printf("%d",o); 12     return 0; 13 } 14 15 int oct(int n) 16 { 17     int o=0,k=1; 18     while(n&gt;0) 19     { 20         int d=n%8; 21         o=d*k+o; 22         k=k*10; 23         n=n/8; 24     } 25     return o; 26 } </pre>
	<p><b>Output Screenshot:</b></p>  <pre> C:\Users\Renita Kurian\Documents\Academic\Second Semester\C Lab\W3&gt;gcc Octal.c C:\Users\Renita Kurian\Documents\Academic\Second Semester\C Lab\W3&gt;a Enter a number25 31 </pre>

6	<p>Write a program in C to find the sum of the series <math>1!/1+2!/2+3!/3+4!/4+5!/5</math> using function.</p> <p><b>Output:</b></p> <p>The sum of the series is : 34</p>
	<p><b>Program:</b></p> <pre> C Series.c &gt; series(int) 1  #include&lt;stdio.h&gt; 2 3  int series(int a); 4 5  int main() 6  { 7      int n; 8      printf("Enter a number"); 9      scanf("%d",&amp;n); 10     printf("%d",series(n)); 11     return 0; 12 } 13 14 int series(int n) 15 { 16     int sum=0; 17     for(int i=1;i&lt;=n;i++) 18     { 19         int fact=1; 20         for(int j=1;j&lt;=i;j++) 21         { 22             fact=fact*j; 23         } 24         sum=sum+fact/i; 25     } 26     return sum; 27 } </pre>
	<p><b>Output Screenshot:</b></p>  <pre> C:\Users\Renita Kurian\Documents\Academic\Second Semester\C Lab\W3&gt;gcc Series.c C:\Users\Renita Kurian\Documents\Academic\Second Semester\C Lab\W3&gt;a Enter a number7 874 </pre>

