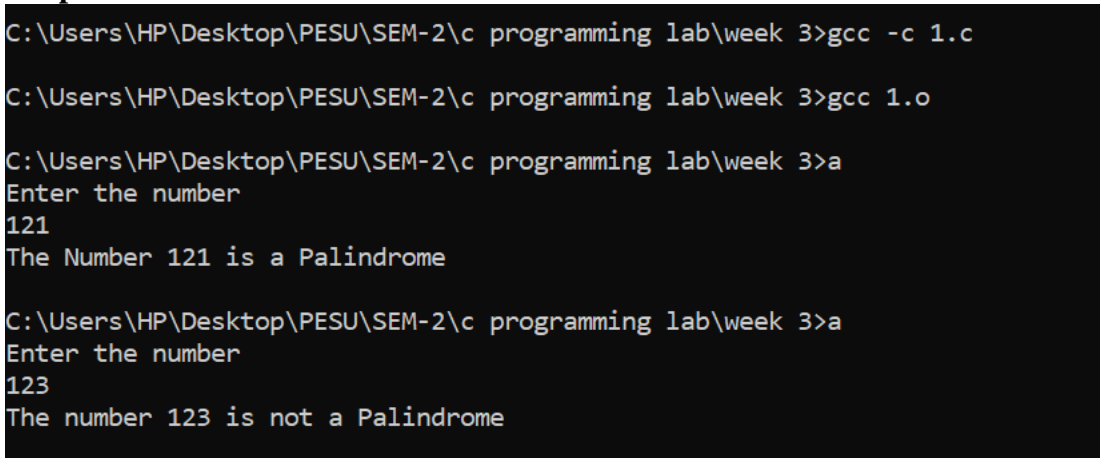


### Week 3: Programs on User Defined Functions

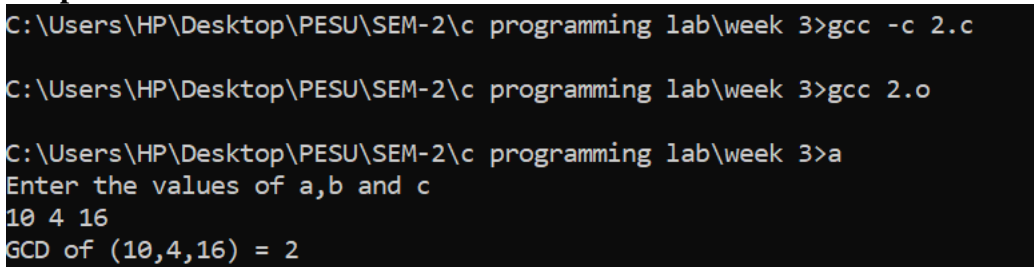
Name: SUNDEEP A	SRN: PES1UG20CS445	Section: O
	Date: 20-5-21	Week Number: 3

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>Input:</b></p> <p>Enter the number</p> <p><b>Output:</b></p> <p>123</p> <p>Number 123 is Not Palindrome</p>
	<b>Program:</b>

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	<pre>#include&lt;stdio.h&gt; int reverse(int); int main() {     int n,r;     printf("Enter the number\n");     scanf("%d",&amp;n);     r=reverse(n);     if(n==r)         printf("The Number %d is a Palindrome\n",n);     else         printf("The number %d is not a Palindrome\n",n);     return 0; } int reverse(int n) {     int digit,r;     r=0;     while(n!=0)     {         digit = n%10;         n=n/10;         r=r*10+digit;     }     return r; }</pre>
	<p><b>Output Screenshot:</b></p> 
2	<p>Write a C program to compute GCD of three numbers using functions.</p> <p><b>Input:</b></p>

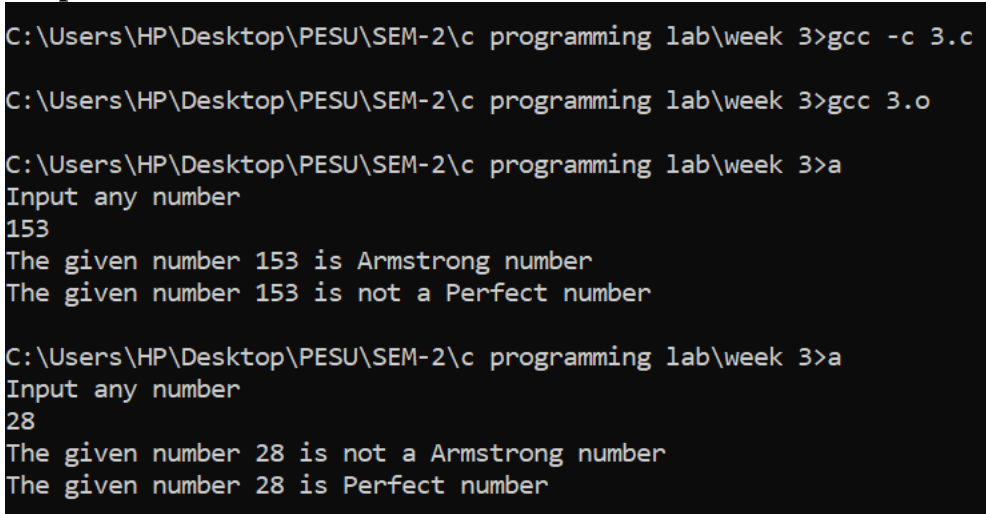
### Week 3: Programs on User Defined Functions

	<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>#include&lt;stdio.h&gt; int gcd(int ,int); int main() {     int a,b,c,d,res;     printf("Enter the values of a,b and c\n");     scanf("%d%d%d",&amp;a,&amp;b,&amp;c);     d=gcd(a,b);     res=gcd(d,c);     printf("GCD of (%d,%d,%d) = %d",a,b,c,res); } int gcd(int m ,int n) {     while(m!=n)     {         if(m&gt;n)             m=m-n;         else             n=n-m;     }     return m; }</pre>
	<p><b>Output Screenshot:</b></p> 
3	<p>Write a program in C to check Armstrong and perfect numbers using functions.</p> <p><b>Input:</b></p> <p>Input any number: 153</p> <p><b>Output:</b></p>

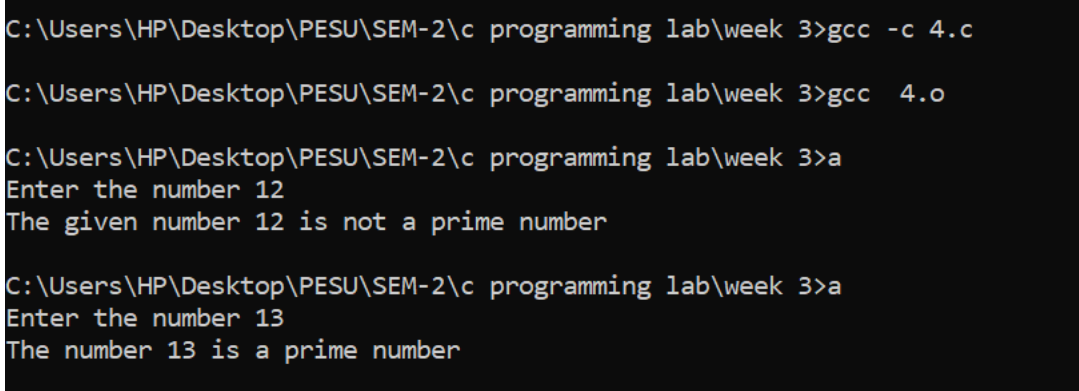
## Week 3: Programs on User Defined Functions

	<p>The 153 is an Armstrong number.</p> <p>The 153 is not a Perfect number.</p> <p><b>Input:</b></p> <p>Input any number: 28</p> <p><b>Output:</b></p> <p>The 28 is not an Armstrong number.</p> <p>The 28 is a Perfect number.</p>
	<p><b>Program:</b></p> <pre>#include&lt;stdio.h&gt; int checkArmstrong(int); int checkPerfect(int); int main() {     int n1;     printf("Input any number\n");     scanf("%d",&amp;n1);     if(checkArmstrong(n1))         printf("The given number %d is Armstrong number \n",n1);     else         printf("The given number %d is not a Armstrong number \n",n1);     if(checkPerfect(n1))         printf("The given number %d is Perfect number \n",n1);     else         printf("The given number %d is not a Perfect number \n",n1);     return 0; } int checkArmstrong(int n1) {     int d,sum=0,num=n1;     while(num!=0)     {         d=num % 10;         sum+=d*d*d;         num=num/10;     }     return(n1==sum); }</pre>

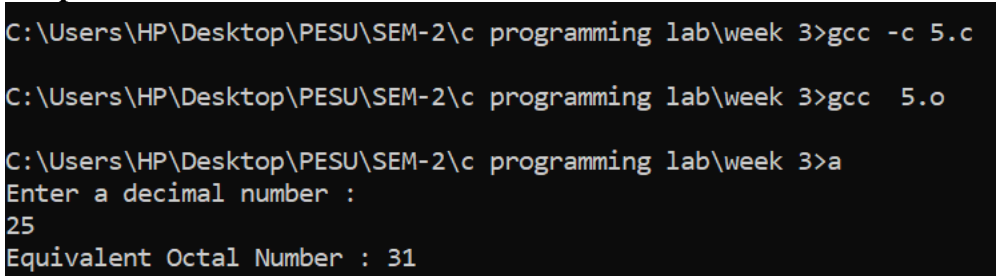
### Week 3: Programs on User Defined Functions

	<pre> int checkPerfect(int n1) {     int i,sum=0,num=n1;     for(i=1;i&lt;num;i++)         if(num%i ==0)             sum+=i;     return (sum == n1); } </pre>
	<p><b>Output Screenshot:</b></p> 
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>Input:</b> Input a positive number : 13</p> <p><b>Output:</b> The number 13 is a prime number</p>

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	<p><b>Program:</b></p> <pre> #include&lt;stdio.h&gt; int PrimeorNot(int); int main() {     int n1;     printf("Enter the number");     scanf("%d",&amp;n1);     if(PrimeorNot(n1)==1)         printf("The number %d is a prime number \n",n1);     else         printf("The given number %d is not a prime number \n",n1);     return 0; } int PrimeorNot(int n1) {     int i=2;     while(i&lt;=n1/2)         if(n1%i==0)             return 0;         else             i++;     return 1; } </pre>
	<p><b>Output Screenshot:</b></p> 
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: 31</p>

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	<p><b>Input:</b></p> <p>Input any decimal number : 15</p> <p><b>Output:</b></p> <p>Equivalent Octal Number: 17</p>
	<p><b>Program:</b></p> <pre>#include&lt;stdio.h&gt; #include&lt;math.h&gt; int deciamloOctal(int); int main() {     int decimalnum;     printf("Enter a decimal number : \n");     scanf("%d",&amp;decimalnum);     printf("Equivalent Octal Number : %d",deciamloOctal(decimalnum));     return 0; } int deciamloOctal(int decimalnum) {     int octalnum=0,temp=1;     while(decimalnum !=0)     {         octalnum = octalnum + (decimalnum %8) * temp;         decimalnum=decimalnum/8;         temp = temp *10;     }     return octalnum; }</pre>
	<p><b>Output Screenshot:</b></p> 
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>

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	<p><b>Output:</b></p> <p>The sum of the series is : 34</p>
	<p><b>Program:</b></p> <pre>#include&lt;stdio.h&gt; int fact(int); int main() {     int sum;     sum = fact(1)/1 + fact(2)/2 +fact(3)/3 + fact(4)/4 +fact(5)/5;     printf("The sum of the series is : %d\n",sum);     return 0; } int fact(int n) {     int num=0,f=1;     while(num&lt;=n-1)     {         f=f+f*num;         num++;     }     return f; }</pre>
	<p><b>Output Screenshot:</b></p> 