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BEI 015

C Programming
Assignment 02.

Program One.

```
#include <stdio.h>
#include <math.h>
int isPrime();
void factor();
int main()
{
    int main;
    printf("Enter your Integer : ");
    scanf("%d", &number);
    if (isPrime(number) == 0)
    {
        printf("%d is a prime number and\n", number
    }
    else
    {
        printf("%d is not a prime number and\n", numbe
    }
    printf("the factor of given number is : ");
    factor(number);
    return 0;
}
int isPrime(int number)
{
    int coun = 0.
    for(int i=2; i<=number/2; i++)
```

```
{
  if(number % i == 0)
  {
    count = 1;
    break;
  }
}
if(number == 1){
  count = 1;
}
return count;
}
void factor(int n)
{
  while(n%2 == 0)
  {
    printf("%d ", 2);
    n = n/2;
  }
for(int i = 3; i <= sqrt(n); i = i+2)
{
  while(n%i == 0)
  {
    printf("%d ", i);
    n = n/i;
  }
}
if(n > 2) { printf("%d ", n); }
}
```

output

```
Enter your integer : 8
8 is not prime number
The factors of your
number is : 2 2 2
```

// Program two

```
#include<stdio.h>
void hcf(int, int);
void lcm(int, int);
void main()
{
    int number_a, number_b;
    printf("Enter two Numbers\n");
    scanf("%d%d", &number_a, &number_b);
    hcf(number_a, number_b);
    lcm(number_a, number_b);
}
void hcf(int n1, int n2)
{
    int gcd, lcm, remainder, numerator, denominator;
    if(n1>n2)
    {
      numerator = n1;
      denominator = n2;
    }
    else
    {
      numerator = n2;
      denominator = n1;
    }
    remainder = numerator % denominator;
    while(remainder != 0)
    {   numerator = denominator;
        denominator = remainder;
        remainder = numerator % denominator;
    }
```

```
    gcd = denominator;
    lcm = n1 * n2 / gcd;
    printf("HCF is: %d", gcd);
}
void lcm(int n1, int n2)
{
    int gcd, lcm, remainder, numerator, denominator;
    if (n1 > n2)
    {
        numerator = n1;
        denominator = n2;
    }
    else
    {
        numerator = n2;
        denominator = n1;
    }
    remainder = numerator % denominator;
    while (remainder != 0)
    {
        numerator = denominator;
        denominator = remainder;
        remainder = numerator % denominator;
    }
    lcm = n1 * n2 / denominator;
    printf("LCM is: %d", lcm);
```

OUTPUT:
Enter two Numbers
25
30
HCF is = 5
LCM is = 150

Program 3

```
#include <stdio.h>
void find_max(int);
int main()
{
  int num, temp, rem, count, fact, sum = 0;
  printf("Enter a number \n");
  scanf("%d", &num);
  temp = num;
  while (num)
  {
     rem = num % 10;
     count = 1;
     fact = 1;
     while (count <= rem)
     {
        fact = fact * count;
        count++;
     }
     printf("The factorial is %d is %d\n",
           rem, fact);
     sum = sum + fact;
     num = num / 10;
  }
  if (temp == sum)
  {
     printf("%d is a strong number.\n", t
     find_max(temp);
  }
```

```
else {
    printf("%d is not a strong number\n", n);
}
return 0;
}
void find_max(int num) {
int large = 0, rem = 0;
while (num > 0)
{
    rem = num % 10;
    if (rem > large)
    {
        large = rem;
    }
    num = num / 10;
}
printf("Largest digit is %d\n", large);
}
```

Output

```
Enter a number
145
Factorial of 5 is 120
Factorial of 4 is 24
Factorial of 1 is 1
145 is a strong number
Largest digit of the number is 5
```

Program 4

```
#include<stdio.h>
void triangular(int, int);
int main()
{
    int n1, n2;
    printf("Enter two positive numbers for range : ");
    scanf("%d %d", &n1, &n2);
    printf("The triangle numbers are : ");
    triangular(n1, n2);
    return 0;
}
void triangular(int na, int nb)
{
    int sum=0, i, j, check;
    for(i=na; i<=nb; i++)
    {
        sum=0;
        check=0;
        j=1;
        while(1)
        {
            sum=sum+j;
            if(sum==i)
            {
                check=1;
                break;
            }
```

```
        else if (sum > i)
        {
            break;
        }
        j++;
    }
    if (check == 1)
    {
        printf("%d\t", i);
    }
}
}
```

Output

```
Enter two positive numbers for range: 50
80
The triangular numbers are : 55. 66. 78
```