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Subject-CSO-101

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Question 1-Write a C program to find GCD and LCM of two Numbers.

Code-

```c
 #include <stdio.h>
int main()
{
int a, b, x, y,hcf;
   scanf("%d %d",&a,&b);
   if (a > b)
   {
      x = a;
      y = b;
   }
   else
   {
      x = b;
      y = a;
   }

    for ( int i = 1; i < y; i++)
    {
       if (x%i==0 && y%i==0)
       {
          hcf=i;
       }
    }
    printf("The Hcf of the two numbers is %d\n",hcf);
       printf("The Lcm of the two numbers is %d\n",(a*b)/hcf);
       return 0;}
```

Question2-Write a C Program to Display Factors of a Number.

Code-

```c
#include <stdio.h>
int main()
{
    int x;
    scanf("%d",&x);
    for (int i = 1; i <=x ; i++)
    {
       if (x%i==0)
       {
          printf("%d\n",i);
       }
    }

    }
```

```
}
```

Question3-Write a C Program to Display Armstrong Number Between Two Intervals.

Code-

```c
#include <stdio.h>
int main()
{
int x, y, a, b;
    scanf("%d %d", &x, &y);
    if (x > y)
    {
        a = x;
        b = y;
    }
    else
    {
        a = y;
        b = x;
    }
    for (int i = b; i <= a; i++)
    {
        int f = i;
        int sum = 0;
        while (f != 0)
        {
            int c = f % 10;
            sum = sum + c * c * c;
            f = (f-c)/ 10;
        }

        if (sum == i)
        {
            printf("%d\n", i);
        }
    }
     return 0;
}
```

Question4-Write a C Program to count number of Digits in an Integer.

Code-

```c
    #include <stdio.h>
int main()
```

```c
{
int x;
    int z=0;
    scanf("%d",&x);
    while (x!=0)
    {
        int y=x%10;
        x=(x-y)/10;
          z++;


    }
    printf("The number is a %d digit number",z);
return 0;
}
```

Question5-

a) Write a C Program to print the following output using nested loops.

```
*
* *
* * *
* * * *
* * * * *
```

Code-

```c
#include <stdio.h>
int main()
{
for (int i = 1; i <=5; i++)
    {
        int x=1;
        while (x<=i)
        {
            printf("* ");
            x++;
        }
        printf("\n");

    }
return 0;
}
```

b)

```
  *
 ***
*****
*******
```

Code-

```c
#include <stdio.h>
int main()
{
int z=2;
   for (int i = 1; i <=4; i++)
   {
       int x=1;
       int y=0;
           while (y<=z)
           {
               printf(" ");
               y++;
           }
       while (x<=2*i -1)
       {
           printf("*");
           x++;

       }
       printf("\n");
        z--;


   }
return 0;
}
```

Question 6

Write a program to print a pascals triangle.

Code-

```c
#include <stdio.h>
int main()
{
 int rows, coef = 1, space, i, j;
   printf("Enter the number of rows: ");
   scanf("%d", &rows);
```

```c
    for (i = 0; i < rows; i++) {
        for (space = 1; space <= rows - i; space++)
            printf("  ");
        for (j = 0; j <= i; j++) {
            if (j == 0 || i == 0)
                coef = 1;
            else
                coef = coef * (i - j + 1) / j;
            printf("%4d", coef);
        }
        printf("\n");
    }
    return 0;
}
```