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Subject: Programing Fundamentals LAB

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Problem: 1

Write a Program in C to Calculate Combination(nCr) for given values of n and r.

Note: Create a function to calculate the factorial and call it three times for each factorial.

```c
#include<stdio.h>
int Fact( int n  )
{       int f=1 ,i ;
      for(i=1;i<=n;++i)
        f=f*i;
      return f;
 }
int main()
{
 int n ,  r , NCR , N ;
printf("Enter value of n \n");
scanf("%d",&n);
printf("Enter value of r \n");
scanf("%d",&r);
N=n-r;
NCR=Fact(n)/(Fact(r)*Fact(N));
printf("The NCR of n=%d & r= %d is = %d ", n,r,NCR);

   return 0;
   }
```

```
PS C:\Users\p22-9269\Desktop\Khizar\Pf lab\Ex 5> ./a.exe
Enter value of n
5
Enter value of r
3
The NCR of n=5 & r= 3 is = 10
```

Problem 2:

Write a function that takes two numbers as an argument and return their LCM.

```c
#include<stdio.h>
int LCM(int a, int b)
{
    int max = (a > b) ? a: b;

   for( int i=1;i>a||b;i++)
    {
        if ((max % a == 0) && (max % b == 0)) {
            break;
        }
        ++max;
    }
    return max;
}
int main()
{
    int a, b, Lcm;
    printf(" Enter value of x \n");
    scanf("%d", &a);
    printf(" Enter value of y \n");
    scanf("%d", &b);
    Lcm = LCM(a, b);
    printf("The LCM of %d & %d = %d ", a, b, Lcm);
    return 0;
}
```

```
PS C:\Users\p22-9269\Desktop\Khizar\Pf lab\Ex 5> gcc 2.c
PS C:\Users\p22-9269\Desktop\Khizar\Pf lab\Ex 5> ./a.exe
 Enter value of x
8
 Enter value of y
4
The LCM of 8 & 4 = 8
PS C:\Users\p22-9269\Desktop\Khizar\Pf lab\Ex 5>
```

Problem 3:

```c
#include<stdio.h>
void  calculate_attandance(float  classes_attanded , float  total_classes )
{
    float percent=1;
    percent=(classes_attanded/total_classes)*100.0;
    printf("Your attandance is %.2f \n",percent );
   if (percent>=80)
   {
       printf("You are allowed to sit in the exam \n");
   }
   else
   printf(" You are not allowed to sit in the exam \n");


}
int main()
{
   int  a , b ;
   printf("Enter number of classes attended: \n");
   scanf("%d",&b);
   printf("Enter number of total classes: \n");
   scanf("%d",&a);

   calculate_attandance(b,a);
    return 0;
}
```

```
PS C:\Users\p22-9269\Desktop\Khizar\Pf lab\Ex 5> gcc 3.c
PS C:\Users\p22-9269\Desktop\Khizar\Pf lab\Ex 5> ./a.exe
Enter number of classes attended:
15
Enter number of total classes:
50
Your attandance is 30.00
 You are not allowed to sit in the exam
PS C:\Users\p22-9269\Desktop\Khizar\Pf lab\Ex 5>
```

Problem 4:

```c
#include<stdio.h>
float price(int number_of_pages )
{
    float price;
    float S= 3.0;
    if (number_of_pages<=10)
    price=10*0.2+ S;
    else
    price=5+((number_of_pages-10)*0.10);
    return price;
}
int main()
{
int a ;
float Total_price ;
printf("Enter number of pages \n");
scanf("%d",&a);
Total_price=price(a);
printf("The total price is %.2f",Total_price);
return 0;
}
```

```
PS C:\Users\p22-9269\Desktop\Khizar\Pf lab\Ex 5> gcc 4.c
PS C:\Users\p22-9269\Desktop\Khizar\Pf lab\Ex 5> ./a.exe
Enter number of pages
20
The total price is 6.00
PS C:\Users\p22-9269\Desktop\Khizar\Pf lab\Ex 5>
```