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BRANCH: ECE
SEMESTER: 3rd
SUBJECT: DATA STRUCTURE & ALGORITHM LAB
SUBJECT CODE: PCC-CS 391
ROLL NO: 28100320042

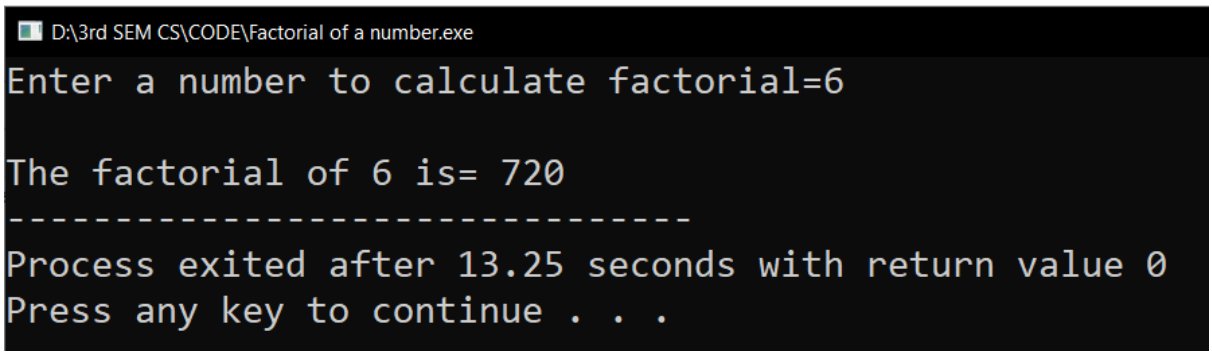
ASSIGNMENT 1

1.Write a c program to calculate the factorial of a number.

Program:

```
#include<stdio.h>
int main()
{
    int fact=1,num,i;
    printf("Enter a number to calculate factorial=");
    scanf("%d",&num);
    for(i=1;i<=num;i++)
    {
        fact=fact*i;
    }
  printf("\nThe factorial of %d is= %d",num,fact);
    return 0;
}
```

Output:

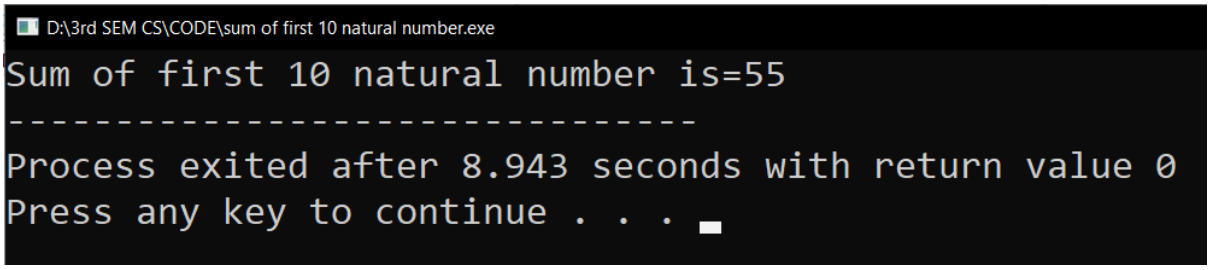


2.Write a C program to calculate the sum of first 10 natural number.

Program:

```
#include<stdio.h>
int main()
{
	int i,sum=0;
	for(i=1;i<=10;i++)
	{
		sum+=i;
	}
	printf("Sum of first 10 natural number is=%d",sum);
	return 0;
}
```

Output:



3.Write a C program to calculate GCD of two numbers.

Program:

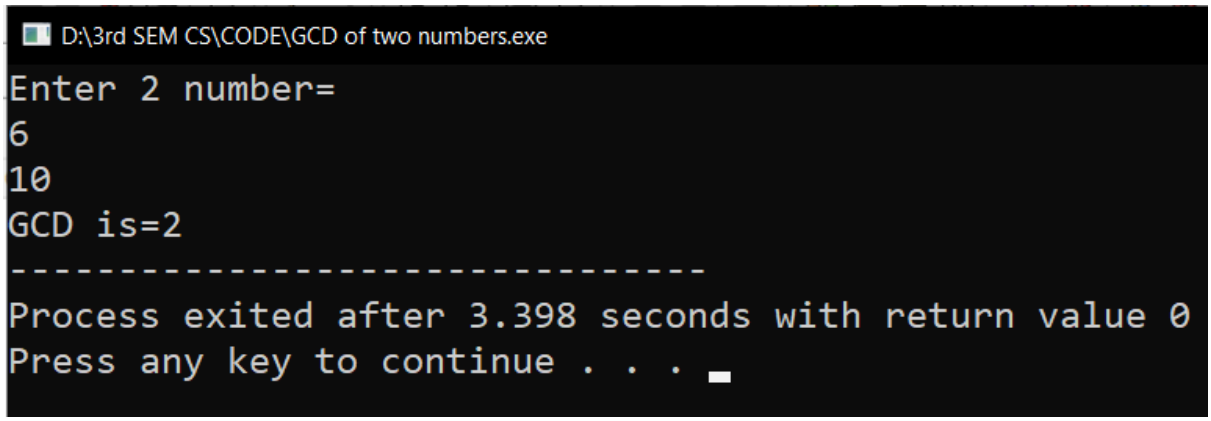
```
#include<stdio.h>
int main()
{
	int num1,num2,gcd,i;
	printf("Enter 2 number=\n");
	scanf("%d%d",&num1,&num2);
	for(i=1;i<=num1 && i<=num2;i++)
	{
		if(num1%i==0 && num2%i==0)
		gcd=i;
	}
```

```
        printf("GCD is=%d",gcd);

        return 0;

}
```

Output:



4.Write a C program to draw the below pattern:

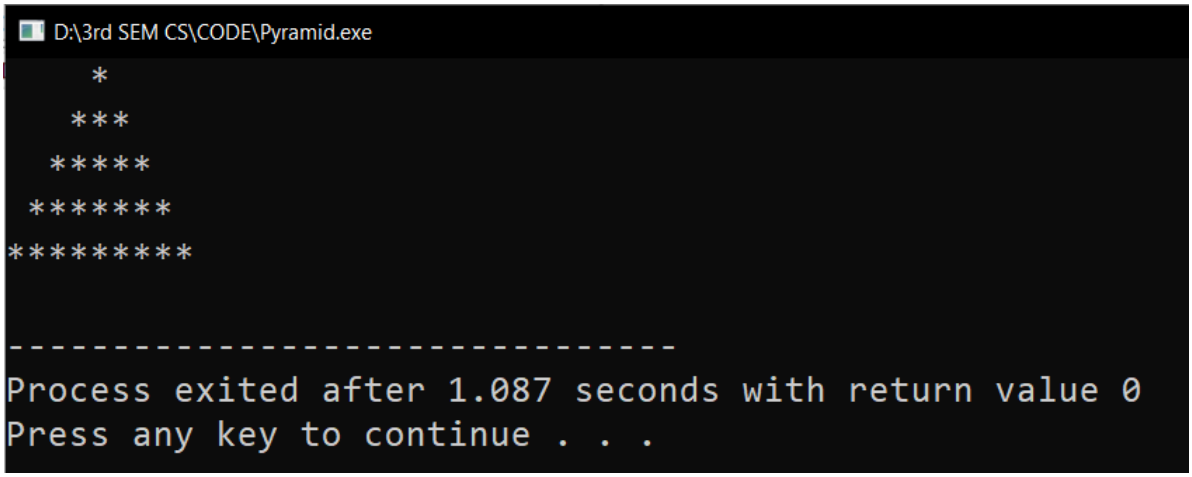
```
    *
   ***
  *****
 *******
*********
```

Program:

```
#include<stdio.h>
int main()
{
        int i,j,k;
        for(i=1;i<=5;i++)
        {
                for(j=1;j<=(5-i);j++)
                {
                        printf(" ");
                }
                for(k=1;k<=((2*i)-1);k++)
                {
                printf("*");
           }
           printf("\n");
        }

        return 0;
}
```

Output:

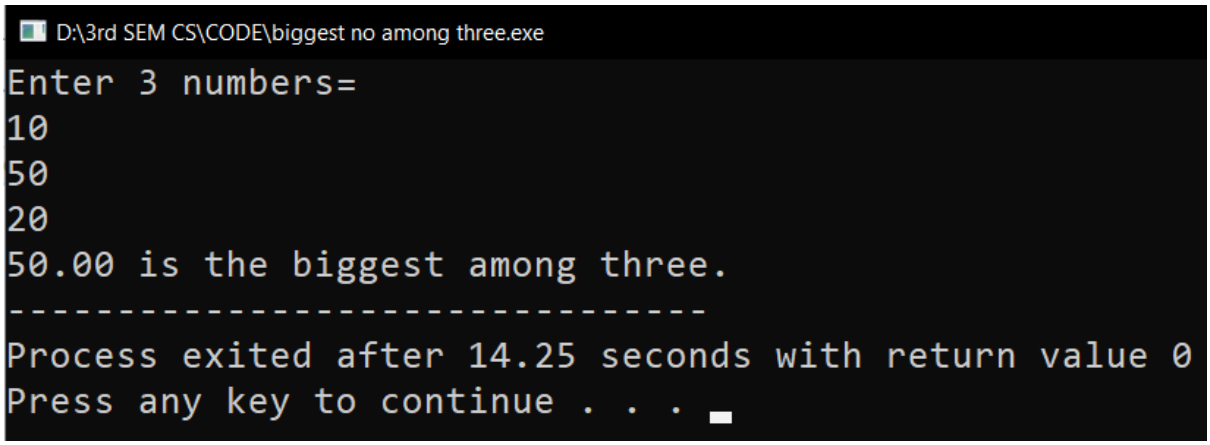


5.Write a C program to calculate the biggest among three.

Program:

```
#include<stdio.h>
int main()
{
	float num1,num2,num3;
	printf("Enter 3 numbers=\n");
	scanf("%f%f%f",&num1,&num2,&num3);
	if(num1>num2 && num1>num2)
	{
		printf("%.2f is the biggest among three.",num1);
	}
	if(num2>num1 && num2>num3)
	{
		printf("%.2f is the biggest among three.",num2);
	}
	if(num3>num1 && num3>num2)
	{
		printf("%.2f is the biggest among three.",num3);
	}
	return 0;
}
```

Output:


D:\3rd SEM CS\CODE\biggest no among three.exe
Enter 3 numbers=
10
50
20
50.00 is the biggest among three.

Process exited after 14.25 seconds with return value 0
Press any key to continue . . .

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