# Logic Building Assignment : 46

**Draw stack layout of each program separately.**

1. Write a recursive program which accept number from user and display below pattern.

Input : 5

Output : 5 * 4 * 3 * 2 * 1 *

Prototype :

```
void Display(int iNo)
{
	// Logic
}
```

2. Write a recursive program which accept number from user and return summation of its digits.

Input : 879

Output : 24

Prototype :

```
int Sum(int iNo)
{
	// Logic
}

int main()
{
	int iValue = 0, iRet = 0;

	printf("Enter number");
	scanf("%d",&iValue);

	iRet = Sum(iValue);

	printf("%d",iRet);

	return 0;
```

}

3. Write a recursive program which accept string from user and count number of characters.

Input : Hello

Output : 5

Prototype :

```
int Strlen(char *str)
{
	// Logic
}

int main()
{
	int iRet = 0;
	char arr[20];

	printf("Enter string");
	scanf("%s",arr);

	iRet = Strlen(arr);

	printf("%d",iRet);

	return 0;

}
```

4. Write a recursive program which accept number from user and return its factorial.

Input : 5

Output : 120

Prototype :

```
int Fact(int iNo)
{
```

```
        // Logic
}
int main()
{
        int iValue = 0, iRet = 0;

        printf("Enter number");
        scanf("%d",&iValue);

        iRet = Fact(iValue);

        printf("%d",iRet);

        return 0;
}
```

5. Write a recursive program which accept number from user and return its product of digits.

Input : 523

Output : 30

Prototype :

```
int Mult(int iNo)
{
        // Logic
}

int main()
{
        int iValue = 0, iRet = 0;

        printf("Enter number");
        scanf("%d",&iValue);

        iRet = Mult(iValue);

        printf("%d",iRet);

        return 0;
}
```