

## Logic Building Assignment : 49

**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;
}
```