Experiment No : 01

1.power

powershare.c (~/Documents/SPCC) - gedit

```c
#include<stdio.h>
int power(int b, int e)
{
        if(e==0)
        {
                return 1;
        }
        else
        {
                return b*power(b,e-1);
        }
}
```

powermain.c (~/Documents/SPCC) - gedit

```c
#include<stdio.h>
#include<powershare.h>
int main(){
        int b,e,ans;
        printf("Enter the base\n");
        scanf("%d",&b);
        printf("Enter the exponent\n");
        scanf("%d",&e);
        ans=power(b,e);
        printf("Result is %d",ans);
        return 1;
}
```

powershare.h (~/Documents/SPCC) - gedit

```c
#include<stdio.h>
#include"powershare.c"
extern int power(int b, int e);
```

student@302-17: ~/Documents/SPCC

```
student@302-17:~/Documents/SPCC$ ./powermain
Enter the base
5
Enter the exponent
6
Result is 15625student@302-17:~/Documents/SPCC$
```

2.fact

facttshare.c (~/Desktop/spcc) - gedit

```c
#include<stdio.h>

int factorial(int n)
{
        if(n == 1 || n == 0)
        {
                return 1;
        }
        else
        {
                return n*factorial(n-1);
        }
}
```

facttmain.c (~/Desktop/spcc) - gedit

```c
#include<stdio.h>
#include "facttshare.h"

int main()
{
        int n;
        printf("Enter The Number");
        scanf("%d",&n);

        printf(" Factorial is :%d",factorial(n));
        return 0;
}
```

facttshare.h (~/Desktop/spcc) - gedit

```c
#include<stdio.h>
#include"facttshare.c"
extern int factorial(int n);
```

```
root@302-17:/home/student/Desktop/spcc# ./facttmain
Enter The Number 7
 Factorial is :5040root@302-17:/home/student/Desktop/spcc# ./facttmain
Enter The Number 5
 Factorial is :120root@302-17:/home/student/Desktop/spcc#
```

3. Square Root

rootshare.c [Read-Only] (~/Desktop/spcc) - gedit

facttmain.c

```c
#include<stdio.h>
#include<math.h>

int rootshare(int n)

{
        if(n==1)
        {
                return 1;
        }
        else
        {
                return sqrt(n);
        }
}
```

rootmain.c [Read-Only] (~/Desktop/spcc) - gedit

```c
#include<stdio.h>
#include "rootshare.h"

int main()
{
        int n;
        printf("Enter The Number");
        scanf("%d",&n);

        printf(" squareRoot is :%d",rootshare(n));
        return 0;
}
```

rootshare.h [Read-Only] (~/Desktop/spcc) - gedit

```c
#include<stdio.h>

#include "rootshare.c"

extern int rootshare(int n);
```

```
root@302-17:/home/student/Desktop/spcc# ./rootmain
Enter The Number16
 squareRoot is :4root@302-17:/home/student/Desktop/spcc#
root@302-17:/home/student/Desktop/spcc#
```