Exercise 1 *– Find the factorial of any given number. An example would be as follows:*

```
Enter the value of N: 6
The factorial of 6 is 720
```

Program –

```
#include<stdio.h>
int factorial(int n)
{
     if(n==0)
     {
          return 1;
     }
     else
     {
          return n*factorial(n-1);
     }
}
int main()
{
     int n;
     printf("Enter the value of N: ");
     scanf("%d",&n);
     if(n<0)
     {
          printf("Invalid");
     }
     else
     {
          printf("The factorial of %d is
          %d",n,factorial(n));
     }
     return 0;
}
```

Output –

```
Enter the value of N: 6
The factorial of 6 is 720

Enter the value of N: -3
Invalid
```

Exercise 2 *– Print the Fibonacci series. An example would be as follows:*

```
Enter the value of N: 5
The series is as follows: 0, 1, 1, 2, 3
```

Program –

```
#include<stdio.h>
int fibonacci(int n)
{
     if(n==0 || n==1)
     {
          return n;
     }
     else
     {
          return (fibonacci(n-1)+fibonacci(n-2));
     }
}
int main()
{
     int n,i,m=0;
     printf("Enter the value of N: ");
     scanf("%d",&n);
     if(n<0)
     {
          printf("Invalid");
     }
     else
     {
          printf("The series is as follows: ");
          for(i=1;i<=n;i++)
          {
               printf("%d ",fibonacci(m));
               m++;
          }
     }
     return 0;
}
```

Output –

```
Enter the value of N: 5
The series is as follows: 0 1 1 2 3
```

Exercise 3 *– Find the GCD of two numbers. An example would be as follows:*

```
Enter two integer values: 6 10
GCD of 6 and 10 is 2
```

Program –

```
#include<stdio.h>
int gcd(int a,int b)
{
     if(a==0)
     {
          return b;
     }
     else if(b==0)
     {
          return a;
     }
     else if (a>b)
     {
          return gcd(a-b,b);
     }
     else
     {
          return gcd(a,b-a);
     }
}
int main()
{
     int a,b;
     printf("Enter two integer values: ");
     scanf("%d%d",&a,&b);
     printf("GCD of %d and %d is %d",a,b,gcd(a,b));
     return 0;
}
```

Output –

```
Enter two integer values: 6 10
GCD of 6 and 10 is 2
```

Exercise 4–*Find the reverse any given number. An example would be as follows:*

```
Enter any integer number: 3571
Reverse of 3571 is 1753
```

Program –

```
#include<stdio.h>
int reverse(int a)
{
    static int r=0,b=1;
    if(a>0)
    {
        reverse(a/10);
        r+=(a%10)*b;
        b*=10;
    }
    return r;

}
int main()
{
    int a;
    printf("Enter any number: ");
    scanf("%d",&a);
    printf("Reverse of %d is %d.",a,reverse(a));
    return 0;
}
```

Output –

```
Enter any integer number: 3571
Reverse of 3571 is 1753
```