Assignment – 12

1. Write a recursive function to print first N natural numbers.

```c
#include<stdio.h>
int print(int n)
{
    if(n==0)
        return 0;
    else
    {
        print(n-1);
        printf("%d ",n);
    }
}
int main()
{
    int n;
    printf("Enter number :");
    scanf("%d",&n);
    printf("First %d Natural numbers are : ",n);
    print(n);
    return 0;
}
```

2. Write a recursive function to print first N natural numbers in reverse order.

```c
#include<stdio.h>
int print(int n)
{
    if(n==0)
        return 0;
    else
    {
        printf("%d ",n);
        print(n-1);
    }
}
int main()
{
    int n;
    printf("Enter number :");
    scanf("%d",&n);
    printf("First %d Natural numbers in reverse order are : ",n);
    print(n);
    return 0;
}
```

3. Write a recursive function to print first N odd natural numbers.

```c
#include<stdio.h>
int print(int n)
{
    if(n==0)
        return 0;
```

```
    else
    {
        print(n-1);
        if(n%2==1)
        printf("%d ",n);
    }
}
int main()
{
    int n;
    printf("Enter number :");
    scanf("%d",&n);
    printf("First %d odd Natural numbers are : ",n);
    print(2*n);
    return 0;
}
```

4. Write a recursive function to print first N odd natural numbers in reverse order.

```
#include<stdio.h>
int print(int n)
{
    if(n==0)
        return 0;
    else
    {
        if(n%2==1)
        printf("%d ",n);
        print(n-1);
    }
}
int main()
{
    int n;
    printf("Enter number :");
    scanf("%d",&n);
    printf("First %d odd Natural numbers in reverse order are : ",n);
    print(2*n);
    return 0;
}
```

5. Write a recursive function to print first N even natural numbers.

```
#include<stdio.h>
int print(int n)
{
    if(n==0)
        return 0;
    else
    {
        print(n-1);
        if(n%2==0)
        printf("%d ",n);
    }
}
```

```c
int main()
{
    int n;
    printf("Enter number :");
    scanf("%d",&n);
    printf("First %d even Natural numbers are : ",n);
    print(2*n);
    return 0;
}
```

6. Write a recursive function to print first N even natural numbers in reverse order.

```c
#include<stdio.h>
int print(int n)
{
    if(n==0)
        return 0;
    else
    {
        if(n%2==0)
        printf("%d ",n);
        print(n-1);
    }
}
int main()
{
    int n;
    printf("Enter number :");
    scanf("%d",&n);
    printf("First %d even Natural numbers in reverse order are : ",n);
    print(2*n);
    return 0;
}
```

7. Write a recursive function to print squares of first N natural numbers.

```c
#include<stdio.h>
int print(int n)
{
    if(n==0)
        return 0;
    else
    {
        print(n-1);
        printf("%d ",n*n);
    }
}
int main()
{
    int n;
    printf("Enter number :");
    scanf("%d",&n);
    printf("Squares of first %d Natural number are : ",n);
    print(n);
    return 0;
```

```
}
```

8. Write a recursive function to print binary of a given decimal number.

```
#include<stdio.h>
int print(int n)
{
    if(n==0)
        return 0;
    else
    {
        print(n/2);
        printf("%d",n%2);
    }
}
int main()
{
    int n;
    printf("Enter number :");
    scanf("%d",&n);
    printf("Binary of %d is : ",n);
    print(n);
    return 0;
}
```

9. Write a recursive function to print octal of a given decimal number.

```
#include<stdio.h>
int print(int n)
{
    if(n==0)
        return 0;
    else
    {
        print(n/8);
        printf("%d",n%8);
    }
}
int main()
{
    int n;
    printf("Enter number :");
    scanf("%d",&n);
    printf("Octal of %d is : ",n);
    print(n);
    return 0;
}
```

10. Write a recursive function to print reverse of a given number.

```
#include<stdio.h>
int print(int n)
{
    if(n==0)
        return 0;
```

```
    else
    {
        printf("%d",n%10);
        print(n/10);
    }
}
int main()
{
    int n;
    printf("Enter number :");
    scanf("%d",&n);
    printf("Reverse of %d is : ",n);
    print(n);
    return 0;
}
```