Assignment 12

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

```
#include<stdio.h>
int printN();
int main()
{
    int n;
    printf("Enter a number ");
    scanf("%d",&n);
    printN(n);
    return 0;
}
int printN(int num)
{
    if (num>0)
    {
        printN(num-1);
        printf("%d ",num);
    }

}
```

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

```
include<stdio.h>
int printN();
int main()
{
    int n;
    printf("Enter a number ");
    scanf("%d",&n);
    printN(n);
    return 0;
}
int printN(int num)
{
    if (num>0)
    {
        printf("%d ",num);
        printN(num-1);

    }

}
```

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

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

```
int printN();
int main()
{
    int n;
    printf("Enter a number ");
    scanf("%d",&n);
    printN(n);
    return 0;
}
int printN(int num)
{
    if (num>0)
    {
        printN(num-1);
        printf("%d ",num*2-1);
    }
}
```

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

```
#include<stdio.h>
int printN();
int main()
{
    int n;
    printf("Enter a number ");
    scanf("%d",&n);
    printN(n);
    return 0;
}
int printN(int num)
{
    if (num>0)
    {
        printf("%d ",num*2-1);
  printN(num-1);
    }
}
```

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

```
#include<stdio.h>
int printN();
int main()
{
    int n;
    printf("Enter a number ");
    scanf("%d",&n);
    printN(n);
    return 0;
}
```

```
int printN(int num)
{
    if (num>0)
    {
        printN(num-1);
        printf("%d ",num*2);
    }
}
```

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

```
#include<stdio.h>
int printN();
int main()
{
    int n;
    printf("Enter a number ");
    scanf("%d",&n);
    printN(n);
    return 0;
}
int printN(int num)
{
    if (num>0)
    {
        printf("%d ",num*2);
        printN(num-1);
    }
}
```

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

```
#include<stdio.h>
int printN();
int main()
{
    int n;
    printf("Enter a number ");
    scanf("%d",&n);
    printN(n);
    return 0;
}
int printN(int num)
{
    if (num>0)
    {
        printN(num-1);
        printf("%d ",num*num);
    }
}
```

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

```
#include<stdio.h>
void binary(int);
int main()
{
    int num;
    printf("enter a decimal number ");
    scanf("%d",&num);
    binary(num);
    return 0;
}
void binary(int n)
{
    if (n==0)
        return;
    binary(n/2);
    printf("%d",n%2);
}

/*#include<stdio.h>
void binary(int);
int main()
{
    int n;
    printf("Enter a decimal number ");
    scanf("%d", &n);
    binary(n);
    return 0;
}
void binary(int n)
{
    if (n == 0)
        return;
    binary(n>>1);
    printf("%d",n&1);
}*/
```

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

```
#include<stdio.h>
void Octal(int);
int main()
{
    int num;
    printf("enter a decimal number ");
    scanf("%d",&num);
    Octal(num);
    return 0;
```

```
}
void Octal(int n)
{
    if (n==0)
        return;
    Octal(n/8);
    printf("%d",n%8);
}
```

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

```
#include<stdio.h>
void reverse(int);
int main()
{
    int n;
    printf("Enter a number ");
    scanf("%d",&n);
    reverse(n);
    return 0;
}
void reverse(int num)
{
    if (num==0)
        return;
    printf("%d", num%10);
    reverse(num/10);
}
```