Assignment 12 Solution

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

```
//Solution:

#include<stdio.h>

void NaturalP(int );
int main()
{
    int num;
    printf("Enter a number:");
    scanf("%d",&num);
    NaturalP(num);
    return 0;
}

void NaturalP(int number)
{
    if(number>0)
    {
        NaturalP(number-1);
        printf("%d ",number);
    }
}
```

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

```
//Solution:
#include<stdio.h>

void reverseNat(int);
int main()
{
    int num;
    printf("Enter a number:");
    scanf("%d",&num);
    reverseNat(num);
    return 0;
}
void reverseNat(int number)
{
```

```
    int i=number;
    --i;
    if(number>0)
    {
        printf("%d ",number);
        reverseNat(number-1);
    }
}
```

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

```
//Solution:

#include<stdio.h>

void oddPrint(int);
int main()
{
    int num;
    printf("Enter a number:");
    scanf("%d",&num);
    oddPrint(num);
    return 0;
}

void oddPrint(int number)
{
    int i=number;
    if(number>0)
    {
        i--;
        oddPrint(number-1);
       printf("%d ",number+i);
    }

}
```

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

```
//Solution:

#include<stdio.h>
void reverseOdd(int);
```

```c
int main()
{
    int num;
    printf("Enter a number:");
    scanf("%d",&num);
    reverseOdd(num);
    return 0;
}
void reverseOdd(int number)
{
    int i=number;
    if(number>0)
    {
        i--;
        printf("%d ",number+i);
        reverseOdd(number-1);
    }
}
```

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

```c
//Solution:

#include<stdio.h>
void evenPrint(int);
int main()
{
    int num;
    printf("Enter a number:");
    scanf("%d",&num);
    evenPrint(num);
    return 0;
}
void evenPrint(int number)
{

    if(number>0)
    {
        evenPrint(number-1);
        printf("%d ",number*2);
    }
}
```

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

//Solution:
#include<stdio.h>

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

Q.7
```c
//Write a recursive function to print squares of first N natural numbers

//Solution:
#include<stdio.h>

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

```
}
```

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

//Solution:

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

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

//Solution:

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

```
        DtoO(num/8);
        printf("%d",num%8);
    }
}
```

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

```
//Solution:
#include<stdio.h>

void reverseNum(int);
int main()
{
    int num;
    printf("Enter a number:");
    scanf("%d",&num);
    reverseNum(num);
    return 0;
}

void reverseNum(int number)
{
    if(number>0)
    {
        printf("%d",number%10);
        reverseNum(number/10);
    }
}
```