**Recursion in C Language**

**Assignment – 12**

**1.** **#include<stdio.h>**

**int nat(int);**

**int main()**

**{**

**int a;**

**printf("ENTER LIMIT OF N NATURAL NO=");**

**scanf("%d",&a);**

**printf("NATURAL NO UPTO N ARE=");**

**nat(a);**

**return 0;**

**}**

**int nat(int a)**

**{**

**if(a>1)**

**nat(a-1);**

**printf("%d ",a);**

**}**

**2.** **#include<stdio.h>**

**void nat(int);**

**int main()**

**{**

**int a;**

**printf("ENTER LIMIT OF N NATURAL NO=");**

**scanf("%d",&a);**

**printf("NATURAL NO UPTO N AND REVERSE ORDER ARE=");**

**nat(a);**

**return 0;**

**}**

**void nat(int a)**

**{**

**int i;**

**if(a<=0)**

**{**

**return 0;**

**}**

**else**

**{**

**printf("%d",a);**

**nat(a-1);**

**}**

**}**

**3.** **#include<stdio.h>**

**void odd(int);**

**int main()**

**{**

**int a;**

**printf("ENTER LIMIT OF N FOR ODD NO=");**

**scanf("%d",&a);**

**printf("ODD NO UPTO N ARE=");**

**odd(a);**

**return 0;**

**}**

**void odd(int a)**

**{**

**if(a>=1)**

**{**

**odd(a-1);**

**printf("%d ",2\*a-1);**

**}**

**}**

**4.** **#include<stdio.h>**

**void odd(int);**

**int main()**

**{**

**int a;**

**printf("ENTER LIMIT OF N FOR ODD NO=");**

**scanf("%d",&a);**

**printf("ODD NO UPTO N IN REVERSE ARE=");**

**odd(a);**

**return 0;**

**}**

**void odd(int a)**

**{**

**if(a>=1)**

**{**

**printf("%d ",2\*a-1);**

**odd(a-1);**

**}**

**}**

**5.** **#include<stdio.h>**

**void even(int);**

**int main()**

**{**

**int a;**

**printf("ENTER LIMIT OF N FOR EVEn NO=");**

**scanf("%d",&a);**

**printf("EVEN NO UPTO N ARE=");**

**even(a);**

**return 0;**

**}**

**void even(int a)**

**{**

**if(a>0)**

**{**

**even(a-1);**

**printf("%d ",2\*a);**

**}**

**}**

**6.** **#include<stdio.h>**

**void even(int);**

**int main()**

**{**

**int a;**

**printf("ENTER LIMIT OF N FOR EVEn NO=");**

**scanf("%d",&a);**

**printf("EVEN NO UPTO N IN REVERSE ARE=");**

**even(a);**

**return 0;**

**}**

**void even(int a)**

**{**

**if(a>0)**

**{**

**printf("%d ",2\*a);**

**even(a-1);**

**}**

**}**

**7.** **#include<stdio.h>**

**void sq(int);**

**int main()**

**{**

**int a;**

**printf("ENTER LIMIT OF N=");**

**scanf("%d",&a);**

**printf("SQUARE OF N ARE=");**

**sq(a);**

**return 0;**

**}**

**void sq(int a)**

**{**

**if(a>0)**

**{**

**sq(a-1);**

**printf("%d ",a\*a);**

**}**

**}**

**8.** **#include<stdio.h>**

**int dec(int);**

**int main()**

**{**

**int a;**

**printf("ENTER A NO=");**

**scanf("%d",&a);**

**printf("DECIMAL OF GIVEN NO IS=%d",dec(a));**

**return 0;**

**}**

**int dec(int a)**

**{**

**int bin=0;**

**if (a==0)**

**return 0;**

**else**

**return bin=a%2+10\*(dec(a/ 2));**

**}**

**9.** **#include<stdio.h>**

**int dec(int);**

**int main()**

**{**

**int a;**

**printf("ENTER A NO=");**

**scanf("%d",&a);**

**printf("DECIMAL TO OCTAL OF GIVEN NO IS=%d",dec(a));**

**return 0;**

**}**

**int dec(int a)**

**{**

**int bin=0;**

**if (a==0)**

**return 0;**

**else**

**return bin=a%8+10\*(dec(a/ 8));**

**}**