Recursion in C Language

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

#include<stdio.h>

void sum(int n)

{

if(n>0)

{

sum(n-1);

printf("%d ",n);

}

}

int main()

{

int a;

printf("enter any number: ");

scanf("%d",&a);

sum(a);

return 0;

}

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

#include<stdio.h>

void rev(int n)

{

int i=1;

if(n>0)

{

printf("%d ",n);

rev(n-1);

}

}

int main()

{

int a;

printf("enter value : ");

scanf("%d",&a);

rev(a);

return 0;

}

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

// Write a recursive function to print first N odd natural numbers

#include<stdio.h>

void odd(int n)

{

if(n>0)

{

odd(n-1);

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

}

}

int main()

{

int a;

printf("enter any value: ");

scanf("%d",&a);

odd(a);

return 0;

}

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

#include<stdio.h>

void odd\_rev(int a)

{

if(a>0)

{

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

odd\_rev(a-1);

}

return;

}

int main()

{

int n;

printf("enter any number: ");

scanf("%d",&n);

odd\_rev(n);

return 0;

}

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

#include <stdio.h>

void even(int n)

{

if (n > 0)

{

even(n - 1);

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

}

return;

}

int main()

{

int n;

printf("enter any number: ");

scanf("%d", &n);

even(n);

return 0;

}

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

#include<stdio.h>

void rev\_even(int n)

{

if(n>0)

{

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

rev\_even(n-1);

}

return 0;

}

int main()

{

int n;

printf("enter any number: ");

scanf("%d",&n);

rev\_even(n);

return 0;

}

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

#include<stdio.h>

void sqr(int n)

{

if(n>0)

{

sqr(n-1);

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

}

return;

}

int main()

{

int n;

printf("enter any number: ");

scanf("%d",&n);

sqr(n);

return 0;

}

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

#include<stdio.h>

void binary(int m)

{

if(m>0)

{

binary(m/2);

printf("%d",m%2);

}

return;

}

int main()

{

int n;

printf("enter any number: ");

scanf("%d",&n);

binary(n);

return 0;

}

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

#include<stdio.h>

void octal(int n)

{

if(n>0)

{

octal(n/8);

printf("%d",n%8);

}

return;

}

int main()

{

int n;

printf("enter any number: ");

scanf("%d",&n);

octal(n);

return 0;

}

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

#include<stdio.h>

void reverse(int a)

{

if(a>0)

{

printf("%d",a%10);

reverse(a/10);

return;

}

}

int main()

{

int n;

printf("enter any number: ");

scanf("%d",&n);

reverse(n);

return 0;

}