Assignment - 12 A Job Ready Bootcamp in C++, DSA and IOT MySirG

Recursion in C Language

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

#include<stdio.h>

void pntnat(int n);

int main()

{

int n;

printf("Enter a number:\n");

scanf("%d",&n);

pntnat(n);

printf("\n");

return 0;

}

void pntnat(int n)

{

if(n>0)

{

pntnat(n-1);

printf("%d ",n);

}

}

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

#include<stdio.h>

int nrev(int n);

int main()

{

int n;

printf("Enter a number:\n");

scanf("%d",&n);

nrev(n);

printf("\n");

return 0;

}

int nrev(int n)

{

if(n>0)

{

printf("%d ",n);

nrev(n-1);

}

}

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

#include<stdio.h>

int oddn(int n);

int main()

{

int n;

printf("Enter a number:\n");

scanf("%d",&n);

oddn(n);

printf("\n");

return 0;

}

int oddn(int n)

{

if(n>0)

{

oddn(n-1);

if(n%2!=0)

printf("%d ",n);

}

}

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

#include<stdio.h>

int oddrev(int n);

int main()

{

int n;

printf("Enter a number:\n");

scanf("%d",&n);

oddrev(n);

printf("\n");

return 0;

}

int oddrev(int n)

{

if(n>0)

{

if(n%2!=0)

printf("%d ",n);

oddrev(n-1);

}

}

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

#include<stdio.h>

int evn(int n);

int main()

{

int n;

printf("Enter a numebr:\n");

scanf("%d",&n);

evn(n);

printf("\n");

return 0;

}

int evn(int n)

{

if(n>0)

{

evn(n-1);

if(n%2==0)

printf("%d ",n);

}

}

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

#include<stdio.h>

int evnrev(int n);

int main()

{

int n;

printf("Enter a numbre:\n");

scanf("%d",&n);

evnrev(n);

printf("\n");

return 0;

}

int evnrev(int n)

{

if(n>0)

{

if(n%2==0)

printf("%d ",n);

evnrev(n-1);

}

}

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

#include<stdio.h>

int sqn(int n);

int main()

{

int n;

printf("Enter a number To See square first N natural numbers:\n");

scanf("%d",&n);

sqn(n);

printf("\n");

return 0;

}

int sqn(int n)

{

if(n>0)

{

sqn(n-1);

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

}

}

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

#include<stdio.h>

void bi(int n);

int main()

{

int n,dig=0;

printf("Enter a number:\n");

scanf("%d",&n);

bi(n);

printf("\n");

return 0;

}

void bi(int n)

{

if(n>0)

{

bi(n/2);

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

}

else

return ;

}

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

#include<stdio.h>

void oct(int n);

int main()

{

int n;

printf("Enter a number:\n");

scanf("%d",&n);

oct(n);

printf("\n");

return 0;

}

void oct(int n)

{

if(n>0)

{

oct(n/8);

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

}

else

return ;

}

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

#include<stdio.h>

int rev(int n,int new);

int main()

{

int n,new=0;

printf("Enter a Number:\n");

scanf("%d",&n);

printf("%d",rev(n,new));

printf("\n");

return 0;

}

int rev(int n,int new)

{

int dig;

if(n>0)

{

dig=n%10;

new=new\*10+dig;

rev(n/10,new);

}

else

return new;

}