Assignment – 12

Recursion in C Language

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

Solve –

#include<stdio.h>

void print(int n);

int main() {

print(5);

return 0;

}

void print( int n){

if(n>0){

print(n-1);

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

}

}

Output-

1

2

3

4

5

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

Solve-

#include<stdio.h>

void print(int n);

int main(){

print(5);

return 0;

}

void print( int n){

if(n>0){

print(n-1);

printf("%d\n",6-n);

}

}

Solve-

5

4

3

2

1

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

Solve -

#include<stdio.h>

void print(int n);

int main(){

print(5);

return 0;

}

void print( int n){

if(n>0){

print(n-1);

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

}

}

Output-

1

3

5

7

9

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

Solve –

#include<stdio.h>

void print(int n);

int main(){

print(5);

return 0;

}

void print( int n){

if(n>0){

print(n-1);

printf("%d\n",10- (2\*n-1));

}

}

Output -

9

7

5

3

1

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

Solve –

#include<stdio.h>

void print(int n);

int main(){

print(5);

return 0;

}

void print( int n){

if(n>0){

print(n-1);

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

}

}

Ouput-

2

4

6

8

10

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

Solve -

#include<stdio.h>

void print(int n);

int main(){

print(5);

return 0;

}

void print( int n){

if(n>0){

print(n-1);

printf("%d\n", 12-(2\*n));

}

}

Output-

10

8

6

4

2

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

Solve -

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

#include<stdio.h>

void dtob( int n);

int main()

{

dtob(25);

return 0;

}

void dtob( int n){

if(n>0){

dtob(n/2);

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

}

}

Output-

1

1

0

0

1

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

#include<stdio.h>

int print( int n);

int main(){

print(5);

return 0;

}

int print( int n){

if(n>0){

print(n-1);

printf("%d\n",6-n);

}

}

Output –

5

4

3

2

1