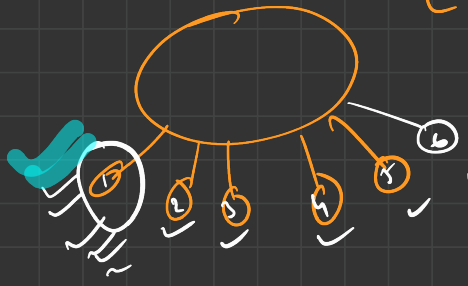
Recursion

Print 1 to N

```
for(i=1; i<=N; i++)
{
    cout<<i;
}
```

Stopage

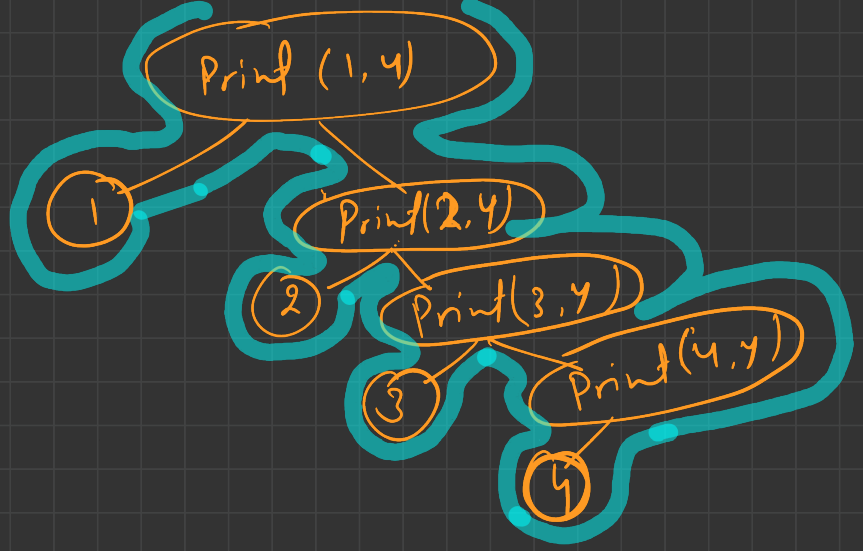


```
void Print(int n, int N){
    if(n==N){
        cout<<n;
        return;
    }
    cout<<n;
    Print(n+1, N);
}
```

```
int main(){
    int N=5;
    Print(1,N);
}
```

1 → N

N > 1



1
2
3
4

Print (5, N) → 5 = 5

Print (4, 5) = 4, Print (5, 5)

Print (3, 5) = 3, Print (4, 5)

Print (2, 5) = 2, Print (3, 5)

Print (1, 5) = 1, Print (2, 5)

Print (num, N) = num, Print (num + 1, N)

1 to N

5

Print (1, N) 1

Print (2, N) 2

Print (3, N) 3

Print (4, N) 4

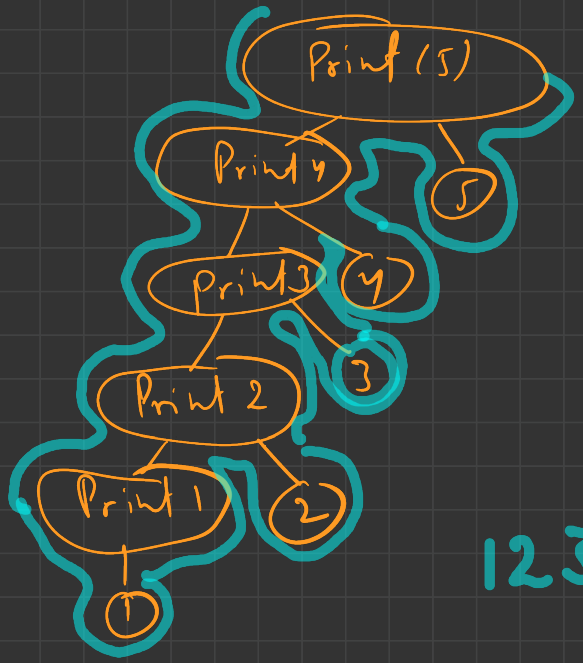
5 → Base case

?

1 to N

```
void Print (int num) {
    if (num == 1) {
        cout << 1;
    } return;
    Print (num - 1);
    cout << num;

}
```



12345

Print(1) = 1

Print(2) = Print(1), 2

Print(3) = Print(1)2

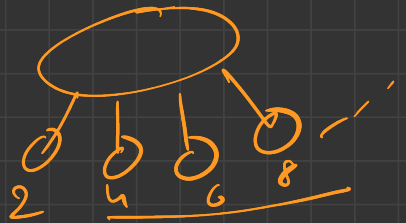
Print(4) = Print(3), 4

Print(5) = Print(4), 5

Print(num) = Print(num - 1), N

5 –
4 –
3 –
2 –
Base → 1

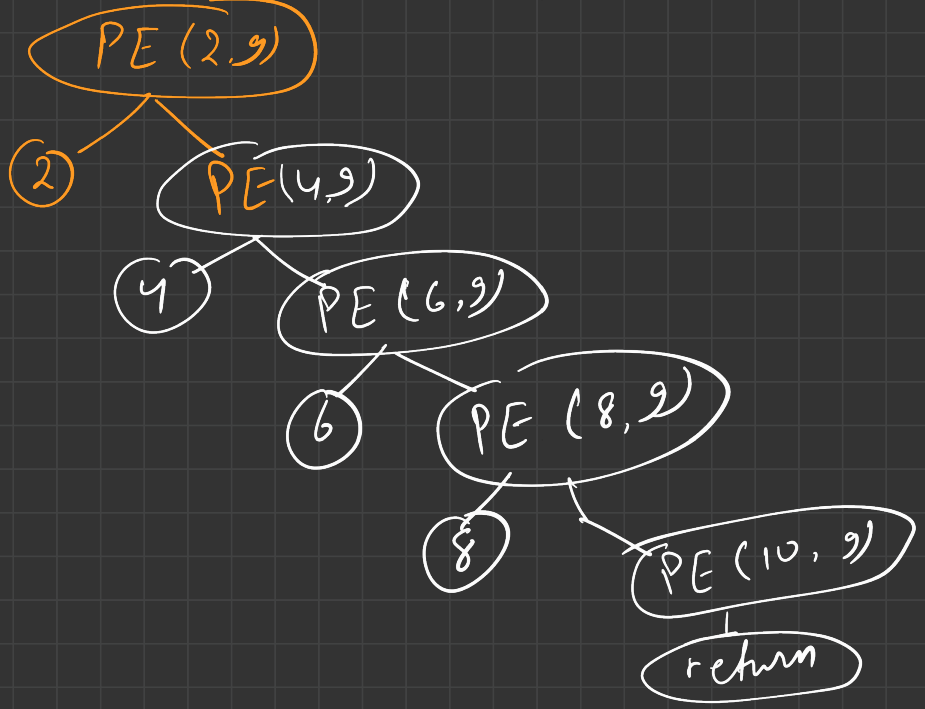
Print 1 to N (Even number)




```
Printeven (int num, int N) {
    if (num > N) {
        return;
    }
    cout << num;
    Printeven ( num+2, N );
}
```

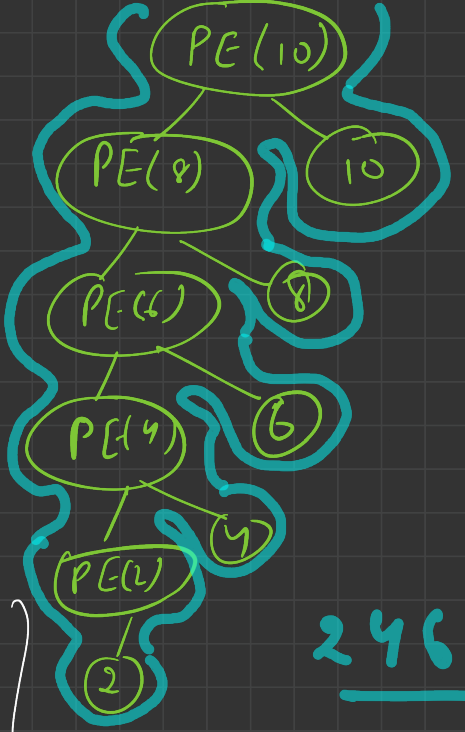
num = 2, 4, 6, 8, 9

```
int main() {
    int N = 9
    Printeven (2, N)
}
```



num = 10

```
PrintEven (int num) {
    if (num == 2) {
        cout << 2;
    } return;
    PrintEven (num - 2);
    cout << num;
}
```



2 4 6 8 10

```
int main() {
    int N = 11;
    if (N%2 == 1) {
        N--;
    }
    PrintEven(N)
}
```

Print(2) : 2

Print(4) : Print(2), 4

Print(6) : Print(4), 6

Print(8) : Print(6), 8

P(10) : P(8), 10

P(N) : P(N-2), N