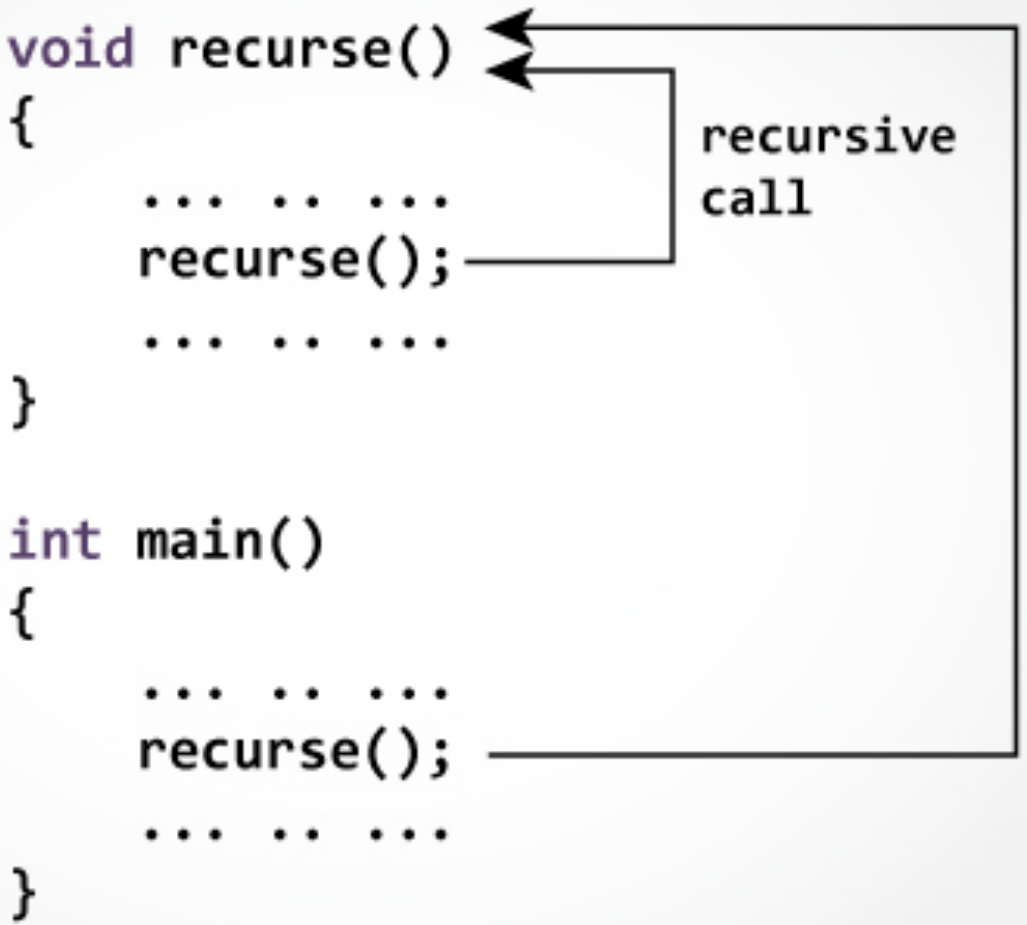
C++ Recursion

How does recursion work?



```cpp
//
#include <iostream>
using namespace std;
int n_to_the_kth_power(int n, int k)
{
    if (k == 0)
        return 1;
    else
        return n * n_to_the_kth_power(n, k-1);
}
int main ()
{
  int n = 2, k = 10;
  while (k >= 0) {
      cout << n << "**" << k << " = " << n_to_the_kth_power(n,k) << endl;
      k--;
  }

  return 0;
}
```

```
2**10 = 1024
2**9 = 512
2**8 = 256
2**7 = 128
2**6 = 64
2**5 = 32
2**4 = 16
2**3 = 8
2**2 = 4
2**1 = 2
2**0 = 1
```

```cpp
// A C++ program to demonstrate working of
// recursion
#include<bits/stdc++.h>
using namespace std;

void printFun(int test)
{
    if (test < 1)
        return;
    else
    {
        cout << test << " ";
        printFun(test-1);     // statement 2
        cout << test << " ";
        return;
    }
}

int main()
{
    int test = 3;
    printFun(test);
}
```

output: