

```

#include <stdio.h>

#define N 3

int Ack(int, int);

int main(void)
{
    for (int i = 0; i < N; i++)
        printf("%d\n", Ack(2, i));
    return 0;
}

int Ack(int m, int n)
{
    if (m == 0)
        return n + 1;
    else if (m > 0 && n == 0)
        return Ack(m - 1, 1);
    else if (m > 0 && n > 0)
        return Ack(m - 1, Ack(m, n - 1));
}

```

$Ack(2, 3);$

$$\begin{aligned}
 Ack(2, 1) &= Ack(1, 1) = Ack(0, Ack(1, 0)) = Ack(0, Ack(0, 1)) = Ack(0, 2) = 3 \\
 Ack(2, 2) &= Ack(1, Ack(2, 1)) = Ack(1, 3) = Ack(0, Ack(1, 2)) = Ack(0, Ack(0, Ack(1, 1))) = Ack(0, Ack(0, 3)) = Ack(0, 4) = 5 \\
 Ack(2, 3) &= Ack(1, Ack(2, 2)) = Ack(1, 5) = Ack(0, Ack(1, 4)) = Ack(0, Ack(0, Ack(1, 3))) = Ack(0, Ack(0, 5)) = Ack(0, 6) = 7
 \end{aligned}$$