Bit check in C++

```
#include <iostream>
using namespace std;

void bitChecker(int x, int k) {
    if ((x & (1 << k)) != 0) {
        cout << k << "th bit is 1" << endl;
    } else {
        cout << k << "th bit is 0" << endl;
    }
}

int main() {
    int x = 22; // Binary: 10110
    for (int k = 0; k <= 4; ++k) {
        bitChecker(x, k);
    }

    return 0;
}
```

Given:

- x = 22 → binary = 10110
- We are checking each bit from position 0 to 4

Dry Run Table:

k (Bit Position)	1 << k (Mask)	x & (1 << k)	Is Bit Set?	Output
0	00001 (1)	10110 & 00001 = 00000	No	0th bit is 0
1	00010 (2)	10110 & 00010 = 00010	Yes	1th bit is 1
2	00100 (4)	10110 & 00100 = 00100	Yes	2th bit is 1
3	01000 (8)	10110 & 01000 = 00000	No	3th bit is 0
4	10000 (16)	10110 & 10000 = 10000	Yes	4th bit is 1

Output:

```
0th bit is 0
1th bit is 1
2th bit is 1
3th bit is 0
4th bit is 1
```

0th bit is 0
1th bit is 1
2th bit is 1
3th bit is 0
4th bit is 1