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| **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 | |