```cpp
1   #include <bits/stdc++.h>
2
3   using namespace std;
4
5   typedef long long ll;
6   typedef vector<int> vi;
7   typedef vector<ll> vll;
8   typedef vector<vector<int>> vvi;
9   typedef vector<vector<ll>> vvl;
10
11  // maximum independent set
12  // O(2^n * n) : n <= 20
13  // O(2^n/2 * n) : otherwise
14  //
15  // param v
16  // v[i] := NG edge (not contain self)
17  struct I {
18    int n;
19    vll ng;
20
21    I(vll &v) {
22      n = v.size();
23      ng = v;
24    }
25
26    int solve() {
27      if (n <= 20) {
28        int size = 1 << n;
29        int ret = 0;
30        for (int i = 0; i < size; i++) {
31          int out = 0;
32          int size = 0;
33          for (int j = 0; j < n; j++) {
34            out |= ((i >> j) & 1) ? ng[j] : 0;
35            size += ((i >> j) & 1);
36          }
37          ret = max(ret, (i & out) ? 0 : size);
38        }
39        return ret;
40      } else {
41        int m = n - 20;
42        int size = 1 << m;
43        vi dp(size);
44        dp[0] = 0;
45        for (int i = 0; i < m; i++)
46          dp[1 << i] = 1;
47        for (int i = 1; i < size; i++) {
48          if (!((i - 1) & i))
49            continue;
50          int out = 0;
```

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51          int size = 0;
52          dp[i] = 0;
53          for (int j = 0; j < m; j++) {
54            dp[i] = max(dp[i], ((i >> j) & 1) ? dp[i ^ (1 << j)] : 0);
55          }
56          for (int j = 0; j < m; j++) {
57            out |= ((i >> j) & 1) ? ng[j] : 0;
58            size += ((i >> j) & 1);
59          }
60          dp[i] = max(dp[i], (i & out) ? 0 : size);
61        }
62      size = 1 << 20;
63      int ret = 0;
64      int mask = (1 << m) - 1;
65      for (int i = 0; i < size; i++) {
66        ll out = 0;
67        int size = 0;
68        for (int j = m; j < n; j++) {
69          out |= ((i >> (j - m)) & 1) ? ng[j] : 0;
70          size += ((i >> (j - m)) & 1);
71        }
72        ret = max(ret, ((out >> m) & i) ? 0 : size + dp[(mask & out) ^ mask]);
73      }
74      return ret;
75    }
76  }
77  };
78
79  int main() {
80    cin.tie(0);
81    ios::sync_with_stdio(false);
82    vll v(21);
83    for (int i = 0; i < 21; i++) {
84      int s = (1 << 22) - 1;
85      v[i] = s ^ (1 << i);
86    }
87    I i(v);
88    cout << i.solve() << endl;
89    return 0;
90  }
91
```