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PROG: impster

LANG: C++

ID: hayk.sa1

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#include <stdio.h>

int s[110];

int d[1<<16];

void print(int l, int k)

{

if (k == 0)

return;

print(l>>1, k-1);

putchar((l&1)+'0');

}

int main()

{

freopen("impster.in", "r", stdin);

freopen("impster.out", "w", stdout);

int n, m, df, l, k, p, b, i, j;

scanf("%d%d", &k, &n);

m = 1<<k;

for (i = 0; i < m; i++)

d[i] = n+1;

df = k+1;

for (i = 0; i <= n; i++)

{

getchar();

for (j = 0; j < k; j++)

s[i] = (s[i]<<1)|(getchar()-'0');

if (i)

d[s[i]] = 0;

}

for (i = 1; i <= n; i++)

for (j = 0; j < m; j++)

if (d[j^s[i]] > d[j]+1)

d[j^s[i]] = d[j]+1;

for (i = 0; i < m; i++)

if (d[i] && d[i] != n+1)

{

p = s[0]^i;

for (b = 0; p; p>>=1)

b += p&1;

if (b < df)

{

df = b;

l = i;

}

}

for (i = 1; i <= n; i++)

if (s[i] == s[0] && (df > 0 || df == 0 && d[l] > 2))

{

l = s[i];

d[l] = 2;

break;

}

printf("%d\n", d[l]);

print(l, k);

putchar('\n');

return 0;

}