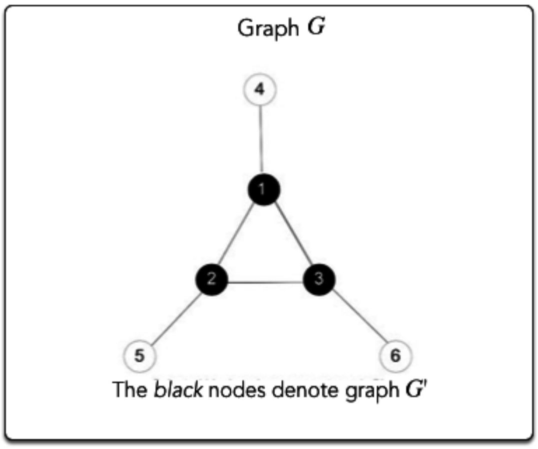
A Graph Problem

We define the following:

- The number of *triangles* in an undirected graph, G, is the number of unordered $\{u, v, w\}$ triples such that (u, v), (u, w), and (v, w) are edges in G.
- Graph G' is a non-empty vertex-induced sub-graph of G such that the *number of triangles* in G' divided by the *number of nodes* in G' is maximal.

For example, consider the following graph:



Given graph G, find and print G' according to the *Output Format* specified below. If there are multiple such graphs, you may print any one of them.

Input Format

The first line contains an integer denoting n (the number of vertices in G).
Each line i of the n subsequent lines contains n space-separated binary integers where each integer j is a 1 if there is an edge between vertices i and j and a 0 if there is not.

Constraints

- $1 \leq n \leq 50$

Output Format

On the first line, print an integer, k, denoting the number of vertices in G'. On the second line, print k distinct space-separated integers describing the respective ID numbers of the vertices in graph G'.

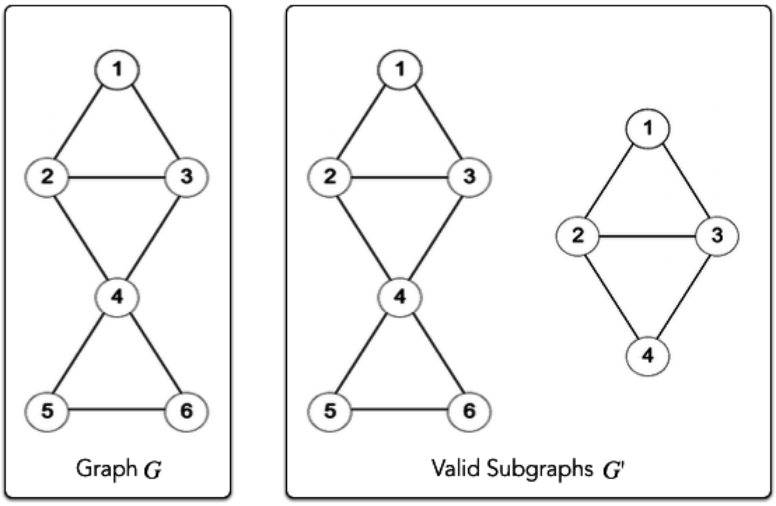
Sample Input 0

```
6
0 1 1 0 0 0
1 0 1 1 0 0
1 1 0 1 0 0
0 1 1 0 1 1
0 0 0 1 0 1
0 0 0 1 1 0
```

Sample Output 0

```
4
1 2 3 4
```

Explanation 0



- If we choose vertices 1, 2, and 3, then induced subgraph G' contains 1 triangle. We then calculate:

$$\frac{\text{number of triangles in } G'}{\text{number of nodes in } G'} = \frac{1}{3}$$

- If we choose vertices 1, 2, 3, and 4, then induced subgraph G' contains 2 triangles (i.e., $\{1, 2, 3\}$ and $\{2, 3, 4\}$). We then calculate:

$$\frac{\text{number of triangles in } G'}{\text{number of nodes in } G'} = \frac{2}{4} = \frac{1}{2}$$

- If we choose all vertices (i.e., 1, 2, 3, 4, 5, and 6), then induced subgraph G' contains 3 triangles. We then calculate:

$$\frac{\text{number of triangles in } G'}{\text{number of nodes in } G'} = \frac{3}{6} = \frac{1}{2}$$

Because a G' consisting of either $\{1, 2, 3, 4\}$ or $\{1, 2, 3, 4, 5, 6\}$ both result in a maximal fraction, then either of the following are valid answers:

```
4
1 2 3 4

6
1 2 3 4 5 6
```

Sample Input 1

```
6
0 1 1 1 0 0
1 0 1 0 1 0
1 1 0 0 0 1
1 0 0 0 0 0
0 1 0 0 0 0
0 0 1 0 0 0
```

Sample Output 1

```
3
1 2 3
```

Explanation 1

This graph corresponds to the image in *Problem Statement* above. There is only one possible triangle, and it's formed by the set of nodes $\{1, 2, 3\}$. We then calculate:

$$\frac{\text{number of triangles in } G'}{\text{number of nodes in } G'} = \frac{1}{3}$$

Because no other G' exists, we print this graph as our answer.