PROBLEM 6.

An icosahedron is given. It is a regular polyhedron. Its sides are numbered from 1 through 20.

The icosahedron should be routed so that to reach each side only once.

The route cost $C$ is defined by the scalar product:

$$
C = \sum_{i=1}^{20} i \cdot f_i
$$

where $f_i$ is the number of the side which is reached in the $i$-th step.

One may pass from one side to another only if these sides are adjacent.

A. Two sides will be adjacent if there exists a common edge;

B. Two sides will be adjacent if there exists a common edge or a common point.

Find the routes with minimal costs for the cases given above.

Remark:

If for time or space complexity of the algorithm you may not find the exact solution you could propose a satisfactory one.