**Partial differential equations**

**Homework**

**Task 10. Elliptic equations. Variational method**

**Methodical instructions**

Consider the problem of minimization of the functional



on the class of functions that equal to zero on the boundary of the given rectangle

**Table of parameters**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **variant** | ***a*** | ***b*** | ***c*** | ***d*** | ***F*** |
| 1 | 0 | 0 | 1 | 1 |  |
| 2 | -1 | -1 | 0 | 0 |  |
| 3 | 0 | -1 | 1 | 0 |  |

**Actions**

It is necessary to transform the minimization problem to the partial differential equation, using the variational method.

Use the example from the lecture as the sample.