Assignment 1

Max. 10 points

Develop an application with a graphical user interface implementing the following basic methods of decision making:

1. Pessimistic approach
2. Optimistic approach
3. Hurwitz method
4. Laplace method
5. Savage (least regret) method

The theory behind each of the listed methods is provided in a separate PDF file (basic_methods.pdf).

Based on your inserted data in the decision table, the results using the basic decision methods listed above should be calculated and displayed. For the Hurwitz criteria method, the results table with different *h* values (from 0 to 1, with a step of 0.1) should be calculated and displayed. Finally, results from the results table should also be plotted with a charting library of your choice. The assignment can be developed with the language of your choice.

To help you understand the requirements and to help you to develop the required application, the example of such application is provided on the next page.

If you have any troubles with the assignment, please do not hesitate to contact me.

When you finish with the assignment, please compress all the necessary files to run your application in the zip archive and upload it on eŠtudij for grading.

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Basic methods

Browse… how_to_expand.csv

File read: **"how_to_expand.csv".**

Decision table:

outcomes\alternatives	status quo	expansion	building HQ	collaboration
sales decrease	28	24	16	30
sales increase	30	42	44	34

Results:

Optimistic approach: building HQ(44)

Pesimistic approach: collaboration(30)

Laplace method: expansion(33)

Savage (least regret) method: expansion(6)

Hurwitz method (criteria):

h	status quo	expansion	building HQ	collaboration
0	28	24	16	30
0.1	28.2	25.8	18.8	30.4
0.2	28.4	27.6	21.6	30.8
0.3	28.6	29.4	24.4	31.2
0.4	28.8	31.2	27.2	31.6
0.5	29	33	30	32
0.6	29.2	34.8	32.8	32.4
0.7	29.4	36.6	35.6	32.8
0.8	29.6	38.4	38.4	33.2
0.9	29.8	40.2	41.2	33.6
1	30	42	44	34