

## Lab Assignment 05 - TOPSIS

- **Submission Guidelines:** You need to submit -
  1. One python (.py) file for Program 1
  2. Web link for Program 2
- Input data files are available in “**Input files for Assignment 05**” folder

**Program 1:** Develop a command line program to implement the TOPSIS.

Input File					Output File						
Model	Corr	Rseq	RMSE	Accuracy	Model	Corr	Rseq	RMSE	Accuracy	Topsis Score	Rank
M1	0.79	0.62	1.25	60.89	M1	0.79	0.62	1.25	60.89	0.55	5
M2	0.66	0.44	2.89	63.07	M2	0.66	0.44	2.89	63.07	0.87	1
M3	0.56	0.31	1.57	62.87	M3	0.56	0.31	1.57	62.87	0.6	4
M4	0.82	0.67	2.68	70.19	M4	0.82	0.67	2.68	70.19	0.79	2
M5	0.75	0.56	1.3	80.39	M5	0.75	0.56	1.3	80.39	0.66	3

### Input/Output Files:

- **Input File**
  - Input file contain three or more columns
  - First column is the object/variable name (e.g. M1, M2, M3, M4..... )
  - From 2<sup>nd</sup> to last columns contain **numeric values only**
- **Output Files**
  - **Result file** contains all the columns of input file and two additional columns having **TOPSIS SCORE and RANK**

**Run the program** through command line as:

### Usages:

`python topsis.py <InputDataFile> <Weights> <Impacts> <ResultFileName>`

### Example:

`python topsis.py inputfile.csv "1,1,1,2" "+,+,-,+" result.csv`

### Check for:

- Correct number of parameters (inputFileName, Weights, Impacts, resultFileName).
- Show the appropriate message for wrong inputs.

- Handling of “File not Found” exception
- Input file must contain three or more columns.
- From 2<sup>nd</sup> to last columns must contain numeric values only (Handling of non-numeric values)
- Number of weights, number of impacts and number of columns (from 2<sup>nd</sup> to last columns) must be same.
- Impacts must be either +ve or -ve.
- Impacts and weights must be separated by ‘,’ (comma).

**Program 2:** Develop a web service for TOPSIS.

File Name	<input type="text" value="Browse File...."/>
Weights	<input type="text" value="1,1,1,1"/>
Impacts	<input type="text" value="+,+,-,+"/>
Email Id	<input type="text"/>
<input type="button" value="Submit"/>	

User should provide input file, weights, impacts and email id.

User should get the result file through email.

Number of weights must be equal to number of impacts

Impacts must be either +ve or -ve.

Impacts and weights must be separated by ‘,’ (comma).

Email id must be correct