Project

9 listopada 2017

Simple engineering problem

Passing the course involves the implementation of a project in the form of a solution chosen by the student engineering problem, which includes:

- preparing report in format *.pdf*
- writing script (program) as a file *.py*

pdf file

raport as a file *pdf* - Portable Document Format.

.py file

file with code in *Python*.

start

Simple engineering problem

Twój problem

It should be presented :

- simple engineerng problem:
    - what serves and where is used
    - how is it handled today: manually, in commercial programs, open source, otherwise?
- mathematical description of the solution of the task, ie which vaues will be calculated, mathematical formulas etc.

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Solution schema

Algorytm

Description of the steps to solve the problem. Each step should be a logical and substantive separated part.

Example

Polygon area calculation using vertex coordinates *(x,y)*:

- data preparation: vertex' coordinates should be ordered according following vertexes and collected in text file in 2 columns

- data download *numpy* array

- data split into 2 separated *numpy* array - x i y

- ... etc.

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Data

Test data

- simple data used during script writting. Such data allows easy results' control and do not generate unexpected errors.

Control data

- data used checking if the written software wors properly. This data are used only after software writtig and simulating real situation, so application software in practice.

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Data

Test data example

For area calculations: file csv of 2 cols i 4 rows with rectangle (i.e 200 m^2) coordinates

Controla data example

For area calculations: file csv of many cols and rows, containing different data placed in columns among others containing vertex coordinates *(x,y)*.

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File .py

Functions

- file containing set of functions developed for partial tasks presented in descriptive part of the report *Scheme of solution*.

Programm

- file containing number of instructions (function calls) addressing the problem, run as an executable program (not as a module).

file .py

It can be but not necessary the same file containing functions!

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