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Resit Project - LogicDocgen

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1 PROJECT OVERVIEW



You are working for a company named SIOCC, as a lead developer and technical manager.

As you have regular meeting with your team, they seem to struggle regularly in one particular domain, the documentation of their work! After a meeting with the CTO of SIOCC, you decided to change things by developing yourself an application to generate automatically both commercial and technical documentation for company products.

Your main objective is very simple and can be described as a common use-case scenario:

1. Active Directory user logs into a web interface
2. User uploads a file to the system
3. System parses the uploaded file, detects if it's a flat file or a C++ source code and return a PDF file, with the content formatted following the syntax contained in the uploaded file

Important note: *You don't need to directly generate a PDF output from your code, you can use an intermediate format as needed.*

You are free to choose the development language that you'll use, but you'll have to justify your choice in the project documentation. You are allowed to integrate an open source component into your solution, **only for one** graded item. If you do so, be sure to check the licensing terms of it.

2 FUNCTIONAL EXPRESSION

2.1 DOCUMENTATION GENERATION WITH A SOURCE FLAT FILE

You'll parse a flat text file uploaded with the extension .txt following the rules described below:

- `**/ SAMPLE DOC /**` will generate a blank page with the centered text SAMPLE DOC, Arial Bold 32 pt.
- `*1/ Title 1 /1*` will generate a level 1 hierarchy title, with the text Title 1
- `*2/ Title 2 /2*` will generate a level 2 title, with the text Title 2
- `*3/ Title 3 /3*` will generate a level 3 title, with the text Title 3
- `b/ SAMPLE /b` will put the text SAMPLE in bold
- `i/ SAMPLE /i` will put the text SAMPLE in italic
- `u/ SAMPLE /u` will underline the text SAMPLE

- `bi/ SAMPLE /bi` will apply bold and italic styles to the text `SAMPLE`
- `bu/ SAMPLE /bu` will apply bold and underline styles to the text `SAMPLE`
- `biu/ SAMPLE /biu` will apply bold, italic and underline styles to the text `SAMPLE`
- `color:#12345/ TEXT_COLORED /:color` will display the text `TEXT_COLORED` with the hexadecimal coded color `#12345`.
- `**bl**` will generate a blank line.
- `**bp**` will generate a blank page.
- `**tbl**` will generate the table of contents, on one or several pages. Style can be implemented here at your convenience.

When using hierarchy titles, it will be described in the document as follow:

1. Level 1 title 1
 - a. Level 2 title 1
 - i. Level 3 title 1
 - ii. Level 3 title 2
 - b. Level 2 title 2
2. Level 1 title 2

If the default font is not explicitly defined, use Arial 12 pt. without any style.

2.2 DOCUMENTATION GENERATION WITH A C++ SOURCE CODE FILE

In this software part, you'll parse automatically a C++ source code, extension `.cpp`.

You'll code your program in order that this kind of file generate a table with every information about the code is summarized into. It must include the following:

- General information part
 - o File name
 - o File weight
 - o File line count
 - o Number of functions present in the file
 - o Namespace used (if precised)
 - o Dependencies
- Functions part (one per function)
 - o Return type
 - o Number of arguments
 - o For each argument
 - Name
 - Type
 - o Function code presented with the Courier font, 12 pt. Code should be colored for better presentation using accepted norms.

3 DELIVERABLES

You'll handle the following to your trainer:

- Full source code of the solution
- Project documentation
- Project presentation PowerPoint
 - o Must be a client-oriented presentation. You'll present your solution, including functionalities, pricing and support options.

All of those items will be zipped into a ZIP file named `IDBOOSTER_2PJT_Resit13-14_LogicDocgen.zip`

4 GRADED ITEMS

Your project will be graded on a total basis of **620 points**. 50 additional points can be added to this total if you deliver additional work that can be graded by the proctor. It will be then converted to form your definitive grade.

Grading scheme for this project is described below:

- **Web interface (100 pts)**
 - o Upload form (20 pts)
 - o Active Directory authentication (30 pts)
 - o Website professional design (20 pts)
 - o Ergonomy (10 pts)
 - o Code conformity to XHTML 1.0 Strict norm (20 pts)
- **Flat file documentation (200 pts)**
 - o Blank page with text generation (20 pts)
 - o Blank page generation (10 pts)
 - o Table of contents generation (30 pts)
 - o Text formatting (100 pts)
 - Bold (10 pts)
 - Italic (10 pts)
 - Underline (10 pts)
 - Bold and Italic (10 pts)
 - Bold and Underline (10 pts)
 - Bold, Italic and Underline (10 pts)
 - Color formatting (10 pts)
 - Handling of nested expressions (30 pts)
 - o Exception handling (40 pts)

- **Source code file documentation (220 pts)**
 - General information part (80 pts)
 - File name (5 pts)
 - File weight (15 pts)
 - File line count (10 pts)
 - Number of functions (20 pts)
 - Namespace (10 pts)
 - Dependencies (20 pts)
 - Function part (80 pts)
 - Return type (10 pts)
 - Number of arguments (20 pts)
 - Argument type (10 pts)
 - Argument name (10 pts)
 - Function code (10 pts)
 - Function code coloring (20 pts)
 - Tables presentation (20 pts)
 - Exception handling (40 pts)
- **Documentation (100 pts)**
 - Code documentation (20 pts)
 - Argumentation on the technology choice (10 pts)
 - Spelling and grammar (20 pts)
 - Administrator guide (50 pts)
 - Should include all technical details about your product, including step-by step installation procedure.
- **Bonus (50 points)**