

PYTHON CODE ANALYSIS

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1. Introduction

1.1 Description

This is a report document of the code in Python for project ../ex1. The files of the project are:

- > **scriptSelector.py**
- > **task1.py**
- > **task2.py**

1.2 Objectives

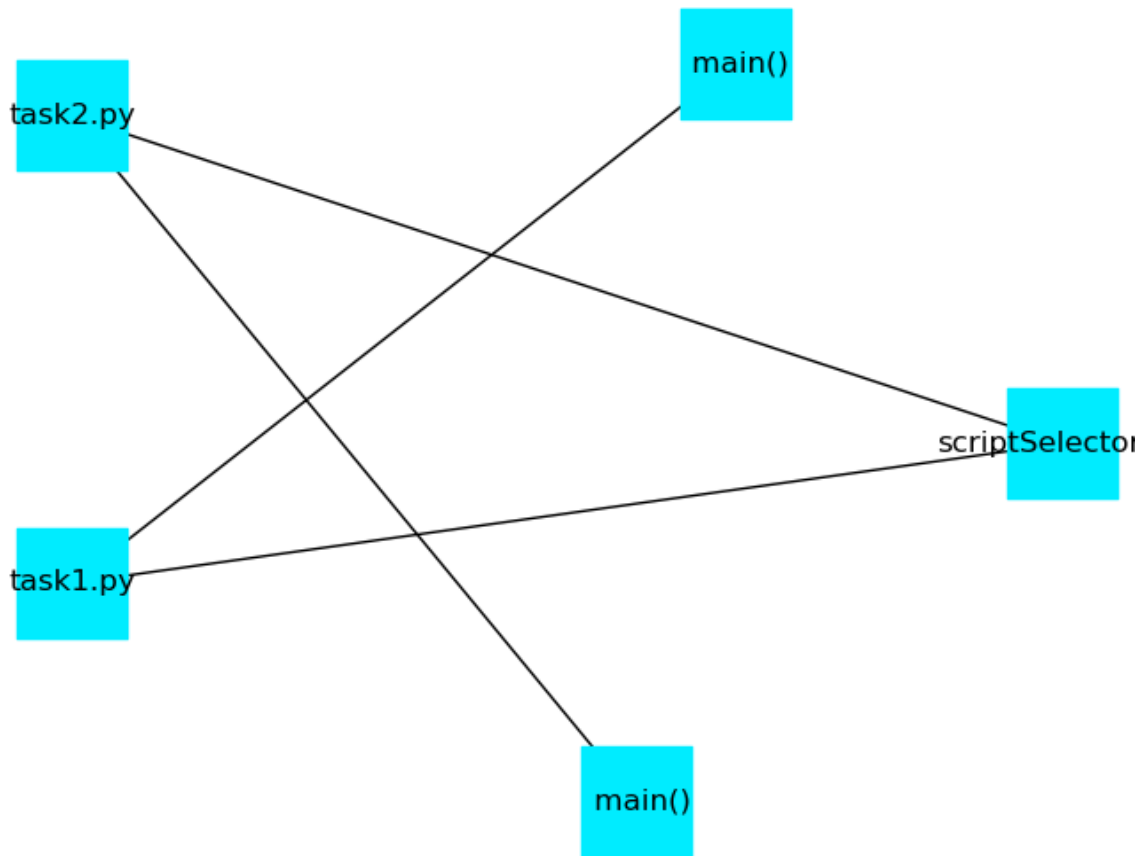
The objective of the document is to extract from the project coded in Python the main components, with the functions, the variables. This is the way to have a better understanding of the code, and to shorten the time to manage any improvement or modification of the code.

The document includes:

- > **The functions**
- > **The variables**
- > **The relationship between them**
- > **The imported libraries**
- > **The list of comments**

1.3 The structure of the project

The structure of the code is:



2. The programs

The list of the programs of the project is detailed in the next section

2.1 scriptSelector.py

Imported libraries are:

- > **task1: line 1**
- > **task2: line 2**

Defined functions are:

- > **There are no defined functions**

The comments on code are:

- > **we exit the infinite loop: line 9**
- > **Case insensitive: line 7**

The used variables are:

- > **mode**
 - **First use in line 5**
 - **Next uses:**
 - # **Use: line 8, 10, 12,**

The used functions are:

- > **From task1:**
 - **.main(): line 11**
- > **From task2:**
 - **.main(): line 13**
- > **Generic:**
 - **input(): line 5**
 - **lower(): line 5**

2.2 task1.py

Imported libraries are:

- > **pdfkit: line 1**
- > **requests: line 2**

Defined functions are:

- > **main(): line 5**

The comments on code are:

- > **generate the pdf: line 13**
- > **and change the encoding to make sure special characters get rendered properly in the pdf: line 11**
- > **we get the text from the url, then remove the marquee from the original document: line 10**
- > **get the information from the url: line 7**

The used variables are:

- > **url**
 - **First use in line 6**
 - **Next uses:**
 - # **Use: line 7,**
 - # **With functions:**
 - > **requests.get(): line 7**
- > **r**
 - **First use in line 7**
 - **Next uses:**
 - # **Operators:**
 - > **.text: line 9**
- > **html**
 - **First use in line 9**
 - **Next uses:**
 - # **Use: line 13,**
 - # **With functions:**
 - > **pdfkit.from_string(): line 13**

The used functions are:

- > **From requests:**
 - **.get(): line 7**
- > **From pdfkit:**
 - **.from_string(): line 13**
- > **Generic:**
 - **get(): line 7**
 - **replace(): line 9, 9, 9**
- > **With variable r:**
 - **r.text.replace("<marquee>", "").replace("</marquee>", "").replace("windows-1252", "utf-8");**
line 9

2.3 task2.py

Imported libraries are:

- > requests: line 1
- > random: line 2
- > pdfkit: line 3
- > BeautifulSoup: line 4

Defined functions are:

- > main(): line 7

The comments on code are:

- > Partial Table: line 67
- > Complete Table: line 63
- > if the last number given by the user is larger than the number of verbs remaining, we adjust it:
line 47
- > Pdf formatting: line 31
- > We retrieve the verbs and store them for later use: line 12

The used variables are:

- > verblInfo
 - First use in line 8
 - Next uses:
 - # Use: line 9,
 - # With functions:
 - > requests.get(): line 9
- > verbDoc
 - First use in line 9
 - Next uses:
 - # Use: line 10,
 - # With functions:
 - > BeautifulSoup(): line 10
- > soup
 - First use in line 10
 - Next uses:
 - # With functions:
 - > enumerate(): line 18
 - # Operators:
 - > .stripped_strings: line 18
- > infinitive
 - First use in line 13
 - Next uses:
 - # Operators:
 - > .append: line 21
- > past

- First use in line 14
 - Next uses:
 - # Operators:
 - > .append: line 23
- > pastParticiple
- First use in line 15
 - Next uses:
 - # Operators:
 - > .append: line 27
- > catalan
- First use in line 16
 - Next uses:
 - # Operators:
 - > .append: line 29
- > head
- First use in line 33
 - Next uses:
 - # Use: line 89, 90,
 - # With functions:
 - > pdfkit.from_string(): line 89
 - > pdfkit.from_string(): line 90
- > verblists
- First use in line 38
 - Next uses:
 - # Reassignment: line 49,
 - # Use: line 49, 52,
 - # With functions:
 - > verblists(): line 49
 - > len(): line 49
 - > enumerate(): line 52
 - # Operators:
 - > .append: line 44
- > numVerbs
- First use in line 39
 - Next uses:
 - # Use: line 42, 47, 48,
- > n
- First use in line 41
 - Next uses:
 - # Reassignment: line 45, 48,
 - # Use: line 42, 47, 45, 48, 49,
- > userInput

- First use in line 43
 - Next uses:
 - # Use: line 45, 44,
 - # With functions:
 - > verblists.append(): line 44
- > lastVerb
- First use in line 51
 - Next uses:
 - # Reassignment: line 91,
 - # Use: line 62,
 - # With functions:
 - > range(): line 62
- > answerSheet
- First use in line 54
 - Next uses:
 - # Reassignment: line 64, 87,
 - # Use: line 64, 87, 89,
- > quizSheet
- First use in line 58
 - Next uses:
 - # Reassignment: line 72, 76, 80, 84, 88,
 - # Use: line 72, 76, 80, 84, 88, 90,
- > c
- First use in line 69
 - Next uses:
 - # Use: line 71, 75, 79,
- > readStrings
- First use in line 18
 - Next uses:
 - # Use: line 19, 20, 22, 24, 28,
- > index
- First use in line 52
 - Next uses:
 - # Use: line 89, 90,
 - # With functions:
 - > "task2List{0}Answers.pdf".format(): line 89
 - > "task2List{0}Quiz.pdf".format(): line 90
- > string
- First use in line 18
 - Next uses:
 - # Use: line 19, 25, 21, 23, 27, 29,
 - # With functions:

- > infinitive.append(): line 21
- > past.append(): line 23
- > pastParticiple.append(): line 27
- > catalan.append(): line 29
- # Operators:
 - > .append: line 26
- > number
 - First use in line 52
 - Next uses:
 - # Use: line 62, 54, 58, 91,
 - # With functions:
 - > """<h1 align = "center">Complete Forms of {0} Irregular Verbs</h1>
 <table align = "center" border='1'><tr><th>Infinitive</th><th>Past</th>
 <th>Past Participle</th><th>Catala</th></tr>""".format(): line 54
 - > """<h1 align = "center">Quiz of {0} Irregular Verbs</h1>
 <table border='1' align = "center"><tr><th>Infinitive</th><th>Past</th>
 <th>Past Participle</th><th>Catala</th></tr>""".format(): line 58
 - > range(): line 62
- > x
 - First use in line 62
 - Next uses:
 - # Use: line 64, 65, 72, 73, 76, 84, 85,

The used functions are:

- > From requests:
 - .get.text(): line 9
- > From BeautifulSoup:
 - (): line 10
- > From random:
 - .randint(): line 69
- > From pdfkit:
 - .from_string(): line 89, 90
- > Generic:
 - get(): line 9
 - enumerate(): line 18, 52
 - append(): line 21, 23, 26, 27, 29, 44
 - int(): line 43
 - input(): line 43
 - len(): line 49, 49
 - format(): line 54, 58, 64, 72, 76, 80, 84, 89, 90
 - range(): line 62
- > With variable soup:
 - soup.stripped_strings: line 18
- > With variable infinitive:
 - infinitive.append(): line 21
- > With variable past:

- `past.append()`: line 23
- > With variable `string`:
 - `string.append()`: line 26
- > With variable `pastParticiple`:
 - `pastParticiple.append()`: line 27
- > With variable `catalan`:
 - `catalan.append()`: line 29
- > With variable `verblists`:
 - `verblists.append()`: line 44

3. Some statistics

The project has 3 programs, with 2 defined functions. The program defines 25 variables and import 4 libraries (external libraries) on 130 lines of python code.