Task 1 and 2 Result

```
task9_1_2 (1) ×
D:\Projects\Universities_laboratory_works\venv\Scripts\python.exe D:/Projects/Universities_laboratory_work
2022-11-11 15:41:13,471 | INFO | ~~~~~~~~~Loading~~~~~~~~~~
2022-11-11 15:41:14,826 | INFO | ~~~~~~~~~Get file from server~~~~~~~~~~
2022-11-11 15:41:14,829 | INFO | ~~~~~~~~~File was saved~~~~~~~~~~
2022-11-11 15:41:14,830 | INFO | ~~~~~~~~~File closed~~~~~~~~~~
2022-11-11 15:41:14,831 | INFO | ~~~~~~~~~Print file to console: ~~~~~~~~~~
2022-11-11 15:41:14,834 | INFO | {'quiz': {'sport': {'q1': {'question': 'Which one is correct team name in
2022-11-11 15:41:14,834 | INFO | ~~~~~~~~~Printing finished~~~~~~~~~~
2022-11-11 15:41:14,835 | INFO | ~~~~~~~~~Opening file~~~~~~~~~~

Process finished with exit code 0
```

```
{} quiz.json ×

D: > Projects > Universities_laboratory_works > com > company > DV_Python > task9 > {} quiz.json > {} quiz > {} maths > {} q2 > [ ] options
1   {
2       "quiz": {
3           "sport": {
4               "q1": {
5                   "question": "Which one is correct team name in NBA?",
6                   "options": [
7                       "New York Bulls",
8                       "Los Angeles Kings",
9                       "Golden State Warriros",
10                      "Huston Rocket"
11                  ],
12                  "answer": "Huston Rocket"
13              }
14          },
15          "maths": {
16              "q1": {
17                  "question": "5 + 7 = ?",
18                  "options": [
19                      "10",
20                      "11",
21                      "12",
22                      "13"
23                  ],
24                  "answer": "12"
25              },
26              "q2": {
27                  "question": "12 - 8 = ?",
28                  "options": [
29                      "1",
30                      "2",
31                      "3",
32                      "4"
33                  ],
34                  "answer": "4"
35              }
36          }
37      }
38  }
```

Task 3 Result

```
D:\Projects\Universities_laboratory_works\venv\Scripts\python.exe D:/Projects/Universities_laboratory_work
2022-11-11 15:40:16,086 | INFO | ~~~~~~~~~Reading file~~~~~~~~~~
2022-11-11 15:40:16,087 | INFO | ~~~~~~~~~Main info~~~~~~~~~~
2022-11-11 15:40:16,087 | INFO | ~~!Amount of quiz category: 2
2022-11-11 15:40:16,087 | INFO | ~~!Types of quiz category object: ['dict', 'dict']:
2022-11-11 15:40:16,087 | INFO | ~~!Type of 'sport.q1.options': list
2022-11-11 15:40:16,087 | INFO | ~~!Value of 'sport.q1.options':
['New York Bulls', 'Los Angeles Kings', 'Golden State Warriros', 'Huston Rocket']
2022-11-11 15:40:16,087 | INFO | ~~!Subjects of 'maths':
2022-11-11 15:40:16,087 | INFO | [('q1', {'question': '5 + 7 = ?', 'options': ['10', '11', '12', '13'], '
2022-11-11 15:40:16,087 | INFO | ~~!All objects of quiz:
2022-11-11 15:40:16,087 | INFO | ["sport : {'q1': {'question': 'Which one is correct team name in NBA?',

Process finished with exit code 0
```

Task 4 Result

```
Run:    task9_4 ×                                                                                    ⚙ —
  ▶  ↑    D:\Projects\Universities_laboratory_works\venv\Scripts\python.exe D:/Projects/Universities_laboratory_work
  🔧  ↓    2022-11-11 15:42:08,624 | INFO | ~~~~~Reading file~~~~~
  ■  ⇥    2022-11-11 15:42:08,624 | INFO | ~~~Print all questions by category name~~~
     ⬇    2022-11-11 15:42:08,624 | INFO | ~~~Print all questions at maths~~~
  ▦  🖶    2022-11-11 15:42:08,625 | INFO |    question: 5 + 7 = ?
  📌  🗑    2022-11-11 15:42:08,625 | INFO |    options: ['10', '11', '12', '13']
           2022-11-11 15:42:08,625 | INFO |    answer: 12
           2022-11-11 15:42:08,625 | INFO |    question: 12 - 8 = ?
           2022-11-11 15:42:08,625 | INFO |    options: ['1', '2', '3', '4']
           2022-11-11 15:42:08,625 | INFO |    answer: 4
           2022-11-11 15:42:08,625 | INFO | ~~~~~Find all values by key~~~~~
           2022-11-11 15:42:08,625 | INFO | ~~~Find all values by key: question~~~
           2022-11-11 15:42:08,625 | INFO | ~~~~~Find all values by key recursive helper~~~~~
           2022-11-11 15:42:08,625 | INFO | ~~~~~Find all values by key recursive helper~~~~~
           2022-11-11 15:42:08,626 | INFO | ~~~~~Find all values by key recursive helper~~~~~
           2022-11-11 15:42:08,626 | INFO |    Which one is correct team name in NBA?
           2022-11-11 15:42:08,626 | INFO | ~~~~~Find all values by key recursive helper~~~~~
           2022-11-11 15:42:08,626 | INFO | ~~~~~Find all values by key recursive helper~~~~~
           2022-11-11 15:42:08,626 | INFO |    5 + 7 = ?
           2022-11-11 15:42:08,626 | INFO | ~~~~~Find all values by key recursive helper~~~~~
           2022-11-11 15:42:08,626 | INFO |    12 - 8 = ?
           2022-11-11 15:42:08,626 | INFO | ~~~~~Find object by key value~~~~~
           2022-11-11 15:42:08,626 | INFO |
Print question with value 5 + 7 = ?
           2022-11-11 15:42:08,626 | INFO | ~~~~~Find object by key value recursive helper~~~~~
           2022-11-11 15:42:08,626 | INFO | ~~~~~Find object by key value recursive helper~~~~~
           2022-11-11 15:42:08,626 | INFO | ~~~~~Find object by key value recursive helper~~~~~
           2022-11-11 15:42:08,627 | INFO | ~~~~~Find object by key value recursive helper~~~~~
           2022-11-11 15:42:08,627 | INFO | ~~~~~Find object by key value recursive helper~~~~~
           2022-11-11 15:42:08,627 | INFO | ~~~~~Find object by key value recursive helper~~~~~
           2022-11-11 15:42:08,627 | INFO | {'question': '5 + 7 = ?', 'options': ['10', '11', '12', '13'], 'answer':
           2022-11-11 15:42:08,627 | INFO | ~~~~~Find object by key value recursive helper~~~~~

           Process finished with exit code 0
```