4. Practical Work: Sequence & Communication Diagram; Python – Solar System

4.1. Modelling:

4.1.1. Develop an accordant **Sequence Diagram** corresponding the group's chosen topic & environment depicting a particular (i.e. in previous practical work #3 described) use case.

4.1.2. Develop an accordant **Communication (Collaboration) Diagram** corresponding the group's chosen topic & environment depicting the same use case as in point 4.1.1. above in case of sequence diagram.

4.1.3. Technical environment: use software tool chosen by the group itself.

4.1.4. Maximum points awarded: **7**

TASK: Using Visual Studio Code environment write Python program with latter mentioned requirements.

4.2.1. Use Solar System and the accordant code (Sun, Planet and Solar System classes) introduced in our lecture. **[a]** Write a method that prints the names of all the planets, in order, from farthest to closest from the sun and the name of the sun itself. **[b]** Investigate Turtle module more and modify the Planet class so that during simulation visually each planet can be an accordingly different size. **[c]** Add a possibility for planets to have a moon – and in particular add a moon to the Earth planet.

Load all the necessary classes and run the solar system simulation. In description document include runtime screenshots of above solutions.

4.2.2. Maximum points awarded: **8**

4.3. Format of solution to be submitted – use MS Word template (available in ViA Moodle) „_pymod2021_grupa00_pd0_dokuments_sablons.docx” and accordingly rename, e.g.: „_pymod2021_grupa0**1**_pd**4**_dokuments.docx” and save in .docx or .pdf format.

The file should containe **descriptions, screen-shots**; also **accordingly change title page**, **footer**, list of **content**, accordingly change part „**Document history**” and part „**Contacts and responsible person(s)**”. If there are no appendices, then delete this chapter. Add **Python code** .py file(s) in attachment of e-mail.

4.4. **Subject** field should contain: **PYMOD2021: pd4**

4.5. The practical work should be submitted in e-mail by 06.01.2022 23:59.