Theory Tasks - Module 1, Good (G)

You should submit your answers as `pdf`, `jpg`, or `png` files.

Bottom-up parsing vs. Top-down parsing

1. Explain shortly the key differences between bottom-up and top-down parsing.
2. Explain the key idea of LR(1) parsing. Specifically, explain the concepts *lookahead*, *shift*, and *reduce*.
3. If you are given the task to construct a parser generator tool, how would you then go about doing the task? Would you use a bottom-up or a top-down approach? Which challenges would you face? Discuss pros and cons you see with taking different approaches. Please motivate your answer.

In total, for these three tasks, your explanations are not expected to be more than 3 pages long.