

1. Problem statement

5 Marks

- ◆ Implement simple intelligent agent (*Simple reflex agent for vacuum cleaner agent in our context.*)

Consider the vacuum cleaner world as shown in **Figure1** and eight possible states in vacuum world as shown in **Figure2**.

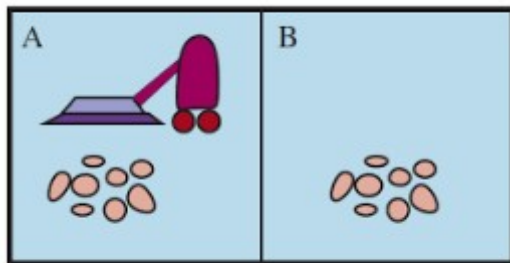


Figure 1: Vacuum Cleaner World

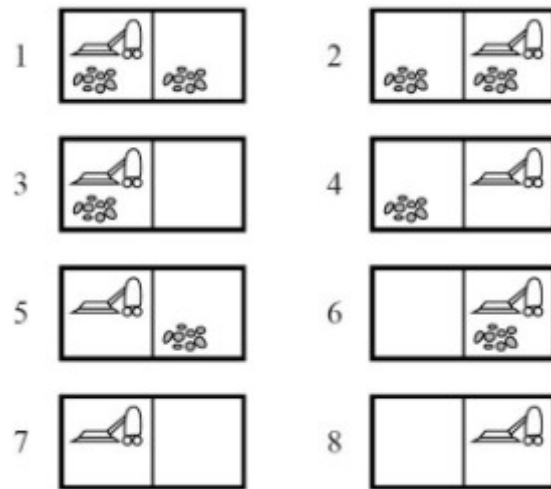


Figure 2: The eight possible states in vacuum world

- ◆ Define the above problem statement formally as PAGE (Percepts, Actions, Goal, Environment) description. Draw the state space graph of the vacuum cleaner world domain that we have taken in to account. (*Our goal is to reach either state 7 or state 8.*)
- ◆ Use rational thinking approach covered in class to formulate the appropriate algorithms and implement in any high level language as per your convenient preferably python.

2. Submission

Your submission must be named rollnum-pa1.zip, where rollnum is your TU exam roll-number in small letters. Upon unzipping the submission, we should get a directory named rollnum-pa1 containing only two files: a detailed report and code file.

3. Warning

The assignment is simple enough, and the instructor too has access to existing online implementations. Further, the assignment has to be done individually. Any hint of plagiarism will lead to serious implications.