

EH2750

Individual assignment2: Planning domain definition language PDDL

Gemneral rules:

- This is a individual assignment and all students should submit their own solution.
- Deadline for submission is 14th November at 12:00.
- You have to pass the assignment in order to pass the course. There is no further grading on the assignment

Description:

In this assignment you are required to implement a PDDL solution (domain and problem definition files) for the ICS-Village environment according to the specification given below:

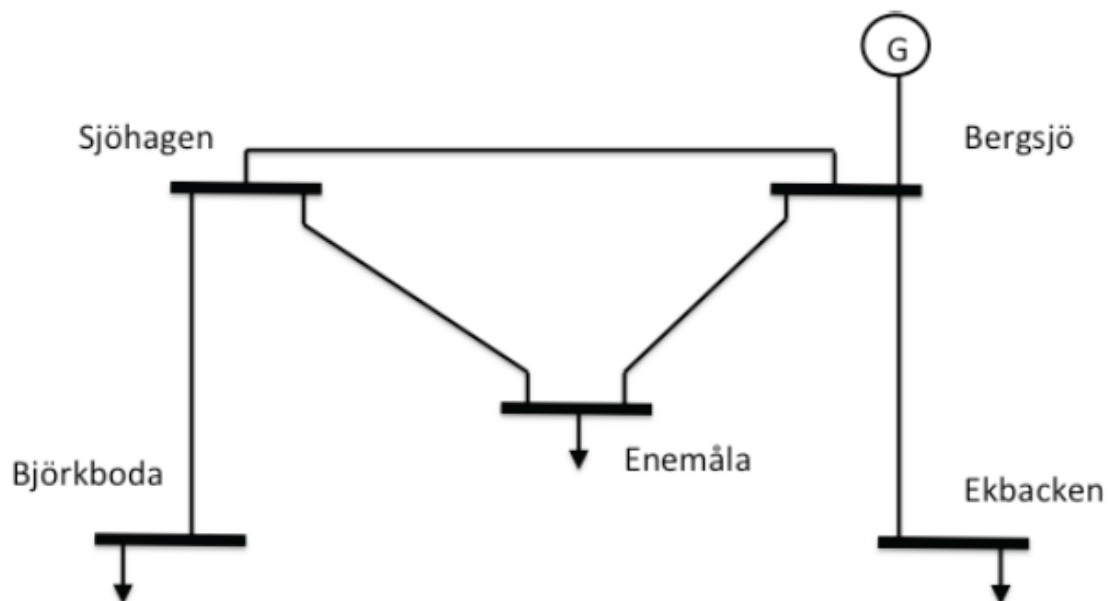


Figure 1: ICS-Village environment

Initial state:

Station 1 (Bergsjö) and station 2 (Ekbackan) are energized while all other stations are de-energized.

Goal state:

All stations are energized.

Some Hints:

Please note that following hints are general suggestions. You are not required to adopt them. You can come up with a complete design of your own.

1: While defining the domain, you may define *location* and *agent* types e.g., for stations and stationagents.

```
(define (domain ICSVillage)
  (:requirements :typing)
  (:types        location locatable - object
              agent- locatable

              )

  (:predicates

  /* cpde fpr the predicates goes here
  )

  (:action CONNECT
   :parameters
  /*code for actions goes here
  ))
```

2: While defining the problem, you may then instantiate the station and agents as follows:

```
(define (problem Asg2)
  (:domain ICSVillage)
  (:objects
    s1 - location
    s2 - location
    s3 - location
    s4 - location
    s5 - location
    A1 - agent
    A2 - agent
    A3 - agent
    A4 - agent
```

```
A5 - agent
)

(:init
  /* code here for the Initial state
  )
  (:goal (and
    /* code here for the goal state
  ))
)
```

3: You can use PDDL studio for testing and debugging of your code. It can be (freely) downloaded from here:

<http://amis.mff.cuni.cz/PDDLStudio/>

Good luck!