

Exercise 1.1

(a)

Yes. The elevator can perceive if each button on floors and in the elevator ON or OFF. On the basis of that perception the elevator makes a set of actions, aiming at the right goal. And both of perception and action are indicated the knowledge of the world, which are represented by the states of the elevator and the buttons.

percepts state of every buttons, current load of elevator, obstacle in the door

actions move elevator, open and close door, turn ON or OFF the buttons, check moveableness, alarm

goals take object from floor A to floor B

environment elevator

The elevator is reflexive agent with states.

(b)

- how fast reach the elevator the aimed floor
- comfortableness of people
- stability of the elevator
- barrier-free
- noise emission
- security

(c)

Exercise 1.2

	accessible	deterministic	episodic	dynamic	discrete
elevator	Y	N	N	Y	Y
the internet	N	N	N	Y	Y
Mars Rover	N	N	Y	Y	N

Exercise 1.3

(a)

```
1  loop{
2      if(IsDirty()) Suck;
3      while(IsEmpty(left)){
4          Move left;
5          if(IsDirty()) Suck;
6      }
7
8      if(IsEmpty(up)){
9          Move up;
10         if(IsDirty()) Suck;
```

```
11     }else{  
12         endloop  
13     }  
14  
15     while(IsEmpty(right)){  
16         Move right;  
17         if(IsDirty()) Suck;  
18     }  
19  
20     if(IsEmpty(up)){  
21         Move up;  
22         if(IsDirty()) Suck;  
23     }else{  
24         endloop  
25     }  
26 }  
27  
28
```