**Tutorial 7**

**Part 1: Planning with certainty**

The plan would be:

0 –

1 –

2 –

3 –

4 –

5 –

**Part 2: Conformant Planning**

1. The agents believe state would be: .

2.One possibility is that as there is some uncertainty regarding the predicates and we can introduce a new action that may be useful in helping to resolve the uncertainty. We can call this:

Another issue is the fact that we are not completely sure whether the water is hot or not. To deal with these a possible solution would be to amend the action by removing the precondition which would then mean that the robot would be able to turn on the kettle again even if the water were hot already and we won’t have to worry about the water being hot or not.

3. The conformant plan would be:

0 –

1 –

2 –

3 –

4 –

5 –

6 –

7 –

8 –

**Part 3: Contingent Planning**

1. We should add three precepts which can each sense the unknown predicates:

2. A possible contingent plan would be:

[

If waterIsHot() then PourWaterToCupFromKettle(C,K) else BoilWaterInKettle(K), PourWaterToCupFromKettle(C,K)].