Marcus Blaisdell
CptS 440
Homework #1
8/30/2018
Dr. Holder

1.

a. Performance measure:

Correct/accurate translation of a Klingon phrase to English.

b.

i. Acts humanly?

True

This is a logical comparative analysis and the agent would perform the task the same way a human would.

ii. Thinks humanly?

True

Given the inputs, the output the computer provides will be either the same or very similar to the output a human would provide. The methodology to determine what words correspond between the languages would be the same between the two.

iii. Acts Rationally?

True

The agent will act to achieve the best expected outcome of a correct translation

iv. Thinks rationally?

True

The agent will use irrefutable reasoning to arrive at a conclusion.

c.

i. Sensors (Percepts)

text input

ii. Actuators (Actions)

translated text output

d.

i. Fully observable

ii. Single agent

Marcus Blaisdell
CptS 440
Homework #1
8/30/2018
Dr. Holder

iii. Deterministic
iv. Sequential
v. Static
vi. Discrete
vii. known

e.

i. Critic

Since we are given a list that pairs Klingon dishes with English translations, the critic would be the function that assesses the translations, that is, if we determine that the Klingon word “pub” is the English word “boiled”, then the critic would look for all sentences in Klingon that contain the word “pub” and confirm that they also contain the word “boiled” in the English translation. If a Klingon sentence contains “pub” but the given English translation does not contain the word “boiled”, then the feedback would be lower and the learning element will need to modify the performance element to possibly accept word variants.

ii. Learning element

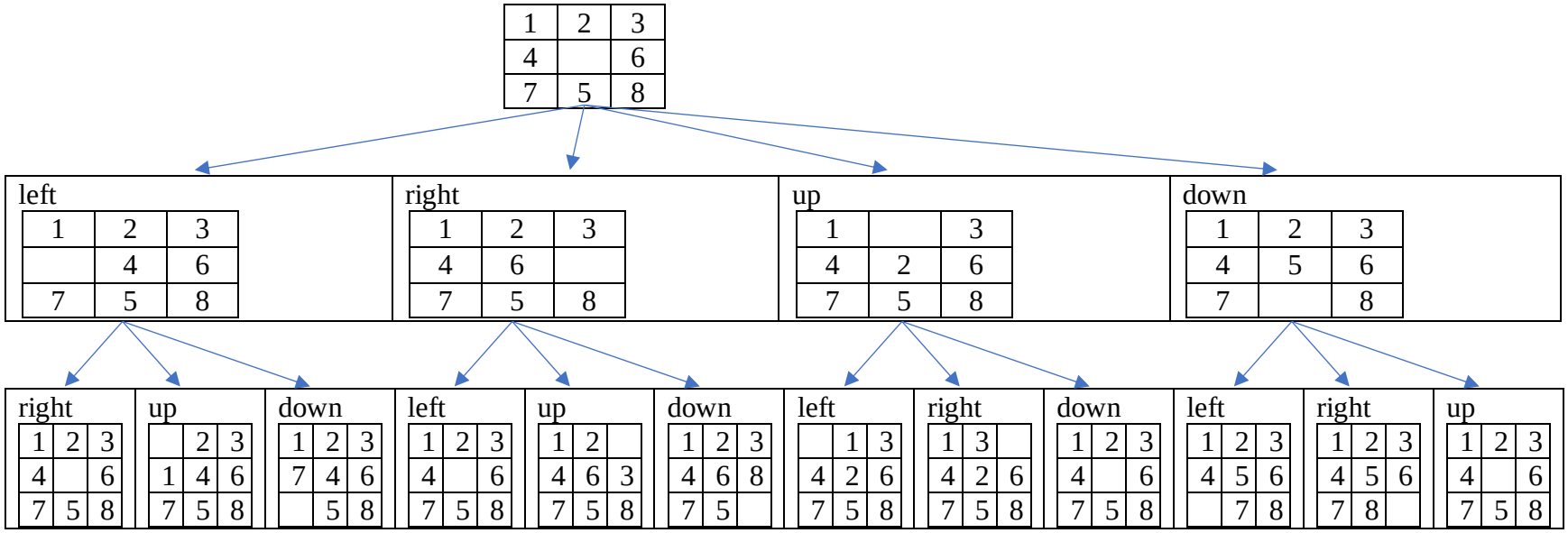
The learning element takes the performance evaluations from the critic and modifies the performance element to either accept reduced matches for example if 4 of 5 letters of one Klingon word appear in another Klingon word, select it as a partial match.

iii. Performance element

Perceives the environment and takes actions such as reading a word and selecting it as a word that appears in a Klingon sentence where the English translation contains a target word.

Marcus Blaisdell
CptS 440
Homework #1
8/30/2018
Dr. Holder

2.
a.



Marcus Blaisdell
CptS 440
Homework #1
8/30/2018
Dr. Holder

b.