Gabriela Tolosa Ramirez

SID# 108971986

Homework 1: Picobot

Dr. Tony Wong

CSCI 1300 REC 303

Part 1: Square Room

Pseudo code: Regardless of the starting point, take Picobot to the bottom, right corner (Southeast corner). Once the corner is reached, Picobot will move North as long as there is no wall to the North. After Picobot touches the north wall, move West one space and go South. Once the South wall is reached, the cycle is repeated until the space is filled.

Code:

      #In state 0, as long as there is no wall E, move E.

1. 0 *x** -> E 0

      #Once E wall is reached, move S(if possible).

2. 0 *E*x -> S 0

      #Once SE corner is reached, change states but don't move

3. 0 *E*S -> X 1

      #State 1 will move N

4. 1 x*** -> N 1

      #Once N wall is reached, move W and change states

5. 1 N*** -> W 2

      #state 2 will move S

6. 2 ***x -> S 2

      #Once S wall is reached, go back to state 1 but don't move

7. 2 ***S -> X 1

Part 2: Diamond Room

Pseudo code: Regardless of the starting point, take Picobot to the bottom corner of the diamond. Once there, Picobot will move North one space and fill in each row from side to side. Once the "middle line" is filled, Picobot will go out one space form the corner, move North one space and fill in each row from side to side.

Code:

```
#While there is no S wall, move S
```

1. 0 ***x -> S 0

```
#If there is a wall E and S, move W (if possible)
```

2. 0 *ExS -> W 0

```
#If there is a wall W and S, move E (if possible)
```

3. 0 *xWS -> E 0

```
#Once in the bottom corner, change states and move N
```

4. 0 xEWS -> N 1

```
#Fill in row to the E
```

5. 1 xxxx -> E 1

```
#Move W once the E side is reached
```

6. 1 *Ex* -> W 2

```
#Once W side is reached move E once
```

7. 1 NxWx -> E 1

```
#Fill in row to the W
```

8. 2 **x* -> W 2

```
#Once W side is reached move E Once
```

9. 2 **W* -> E 3

```
#Move N one and loop back around
```

10. 3 xxxx -> N 1