Assignment 1

Proof for the Heuristic

In order for the heuristic to be valid, it needs to be admissible and monotonic.

Admissibility

The rule states that

*def* heuristic(self,*x*,*y*):  
 '''  
 method used to calculate the heuristic value given the current x and y coordinates  
 @param x: current x coordinate  
 @param y: current y coordinate  
 @return: returns the heuristic value  
 '''  
 # Calculate the difference in both x and y directions  
 dx = abs(*x* - self.GOAL\_COORD[0])  
 dy = abs(*y* - self.GOAL\_COORD[1])  
  
 # Returns the max of either the x or y direction  
 *return* max(dx,dy)