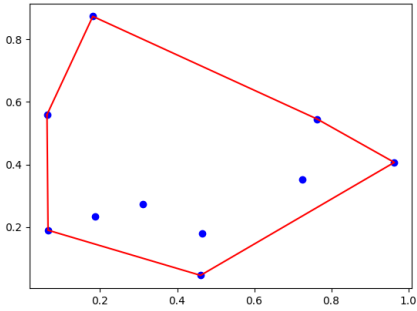# Homework Assignment 6

Abhay Gupta (Andrew Id: abhayg)

November 29, 2018
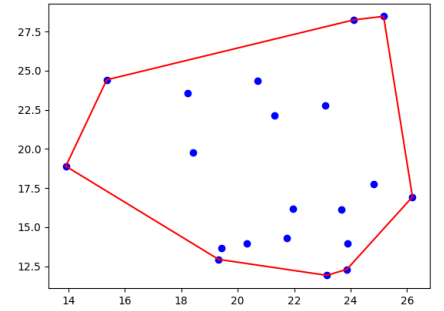
There is a `README.md` in the code which has sample code and instructions for testing the code.

1 Question 1

Some sample convex hulls are shown below in Figures 1 and 2. The code is implemented in `q1.py`.
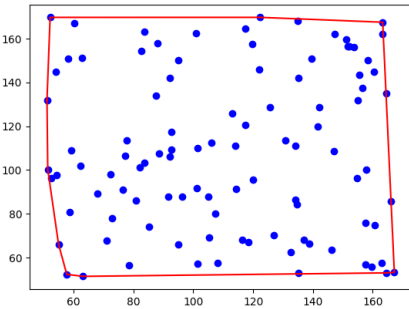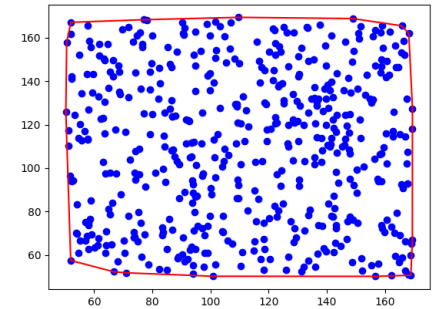

(a) Example 1

(b) Example 2

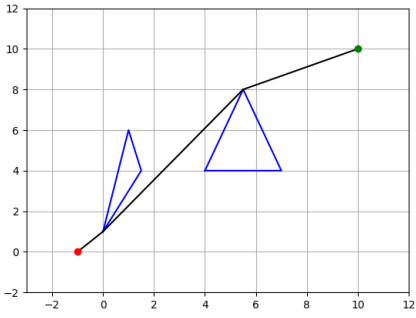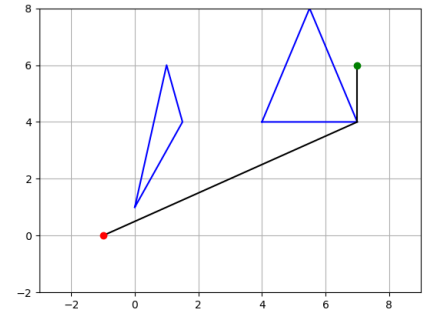Figure 1: Convex Hull Example

(a) Example 3

(b) Example 4

Figure 2: Convex Hull Example

2   Question 2

Some sample cases are shown below in Figures 3 to 6. The code is implemented in `q2.py`.
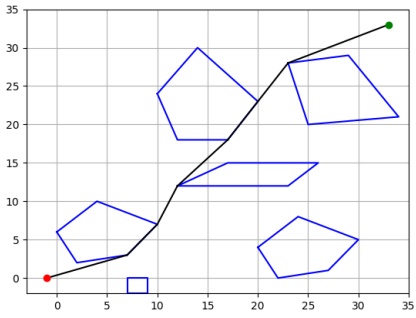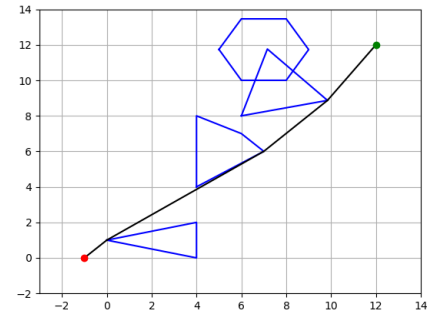

(a) Example 1

(b) Example 2
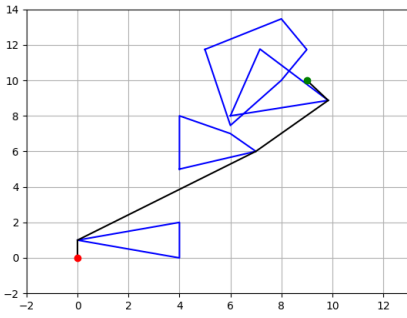
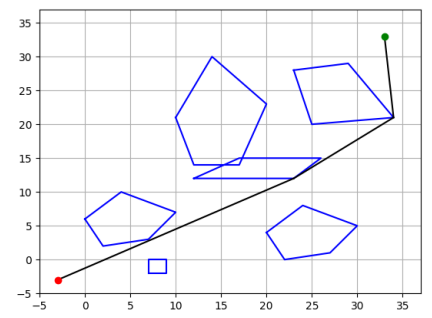Figure 3: Shortest Path Example

(a) Example 3

(b) Example 4

Figure 4: Shortest Path Example
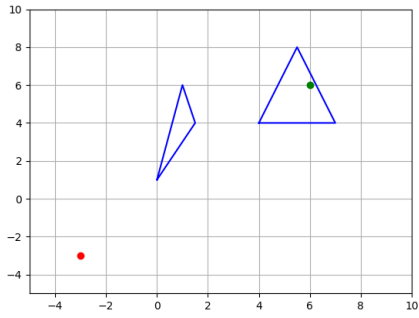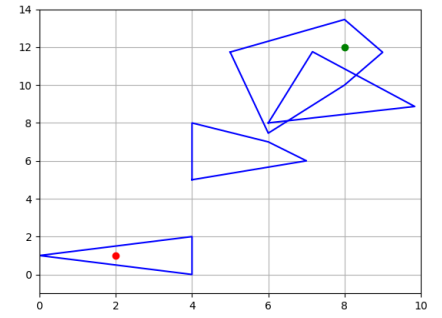

(a) Example 5

(b) Example 6

Figure 5: Shortest Path Example

3   Question 3

Some sample cases are shown below in Figures 7 to 9. Extra code for this question is implemented in `q2.py` as `getMinkowskiSum(self, robot)` - `q3.py` are test cases for robot translational shortest path.
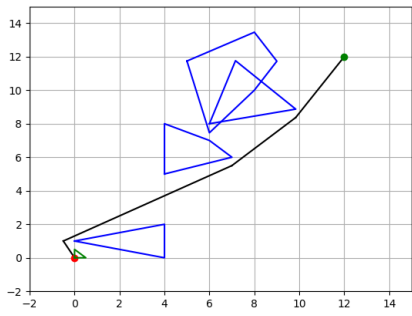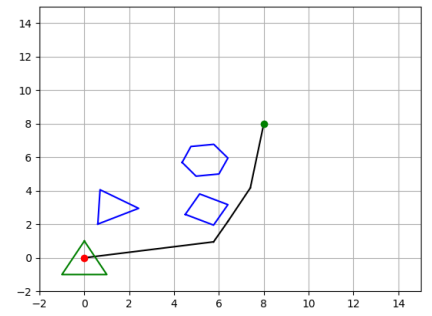
(a) Example 7

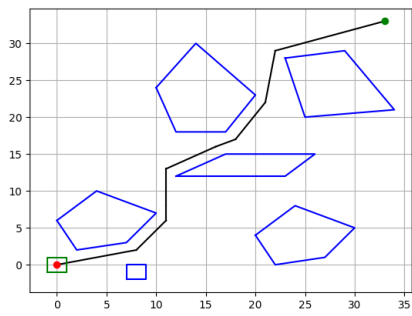(b) Example 8

Figure 6: No Path Example
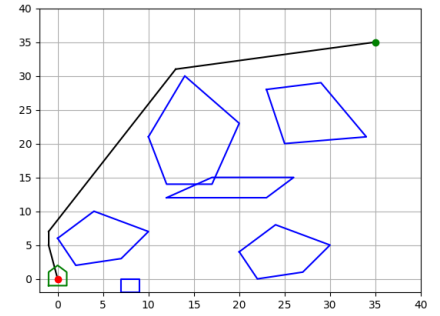

(a) Example 1

(b) Example 2
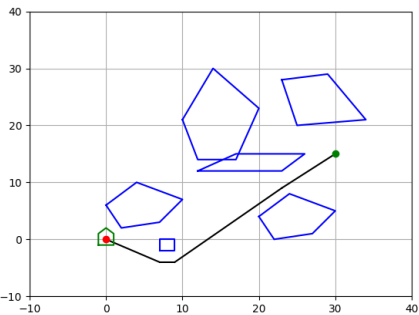
Figure 7: Robot Shortest Path Example
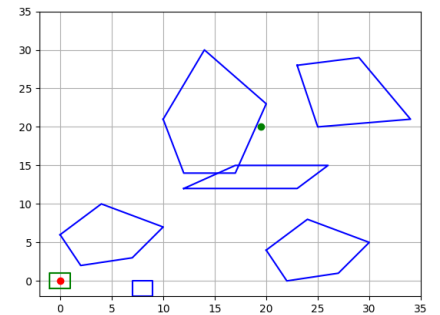

(a) Example 3

(b) Example 4

Figure 8: Shortest Path Example

(a) Example 5

(b) Example 6

Figure 9: Shortest Path Example