

## Robot Animation

Topic Course: CS473 Computer Graphics in Java

Due: .....

Name \_\_\_\_\_ I.D. (last 4 digits) \_\_\_\_\_

### Robot Animation (35pts).

Write a program to show a robot. A robot consists of five parts-a body, an arm, a hand, and two fingers. Each part is defined by one (or more) polygon, or part of circle or other Primitives. The following requirements have to meet:

1. Show the four model parts;
2. Compose the parts into a robot;
3. Show the move of each part, such as arms moving, hands moving, finger moving, and body moving.
4. Text should be used properly;
5. (Extra 5 point) Show a sequence of moves such that the robot reaches and grabs a block on the floor;
6. Test your program with at least three sets of inputs.
7. (Option) Use the mouse to move (including rotating) the robot.

**Output:** See the sample outputs. But your robot is not the same as the sample as long as your robot can do all the moves that the one in the sample can do.

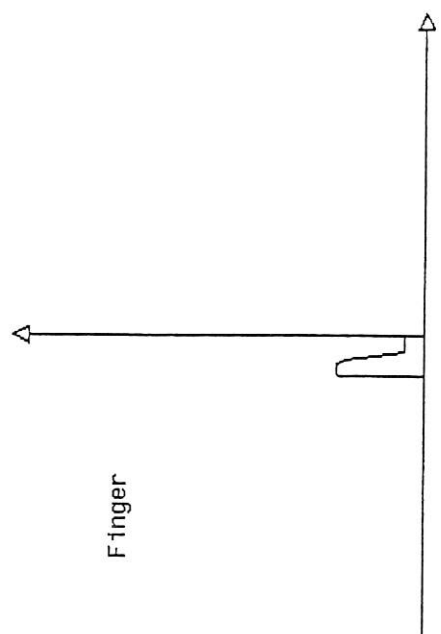
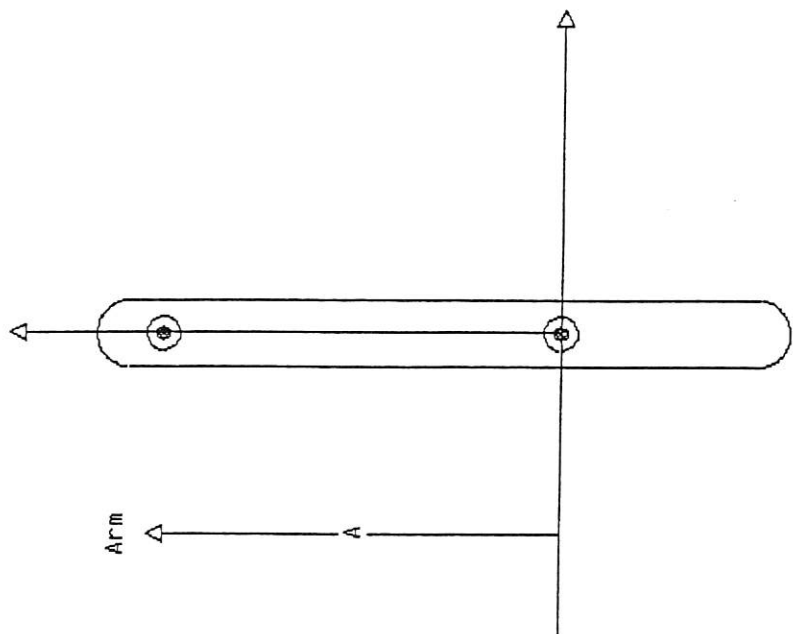
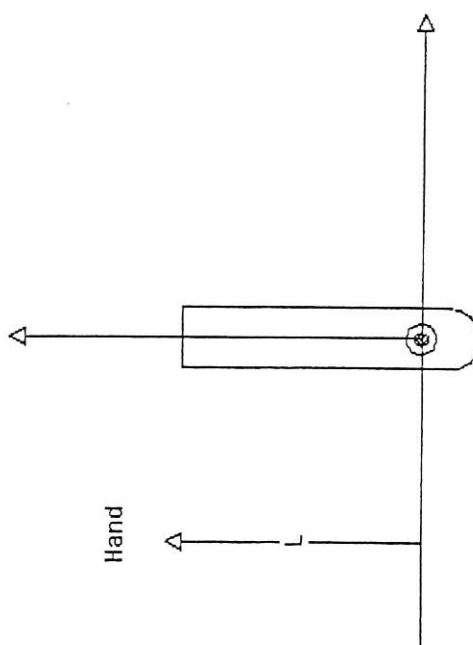
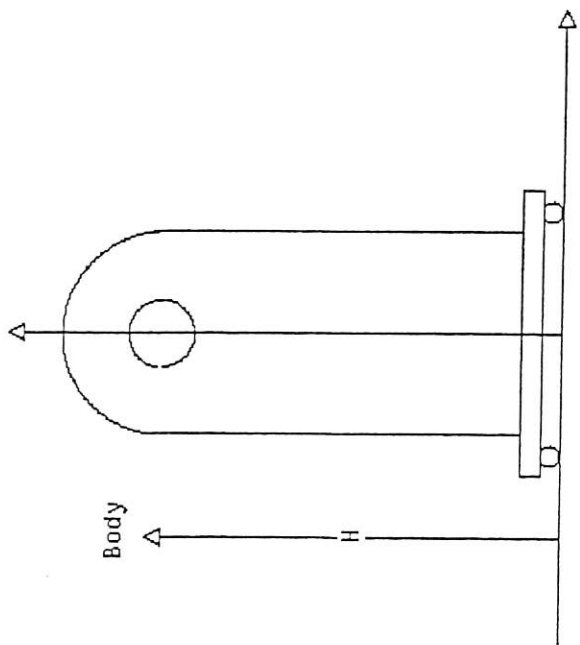
### Partners

You are allowed to work with a partner on this project. Be sure to include both of your names on the program that you turn in.

### Hand in

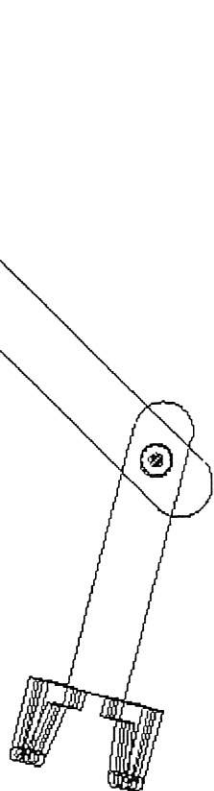
1. A printout of your program with ample comments, and make sure your names are included in the comments.
2. The sets of data which you use to test your program;
3. A disk which contains your source code and the executable program.

**Output Examples:** (See next page)



<< \*\*\*\* FINGER MOVING \*\*\*\* >>

\*L1 = 250.0      \*L2 = 15.0      \*theta\_1 = 45.0      \*theta\_2 = 60.0



GET ME

<< \*\*\*\* HAND MOVING \*\*\*\* >>

\*L1 =

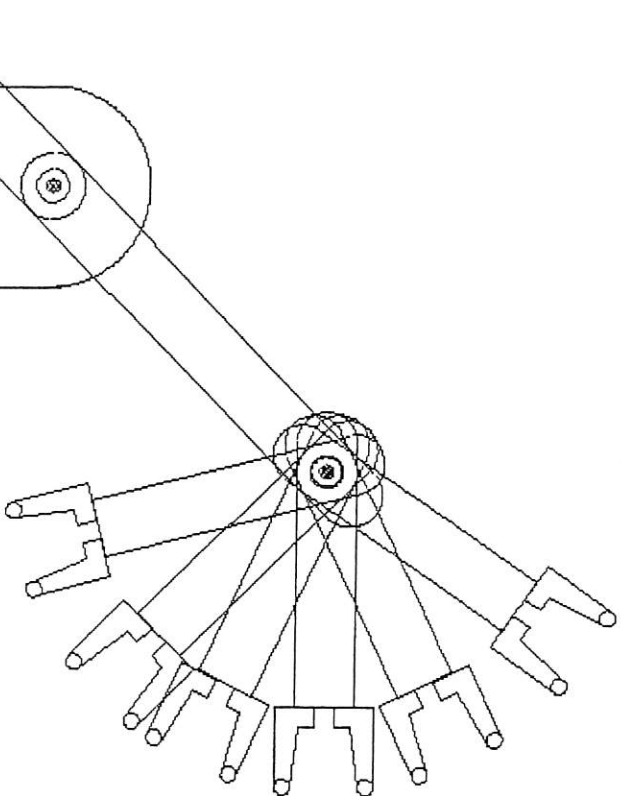
255.0

\*L2 =

5.0

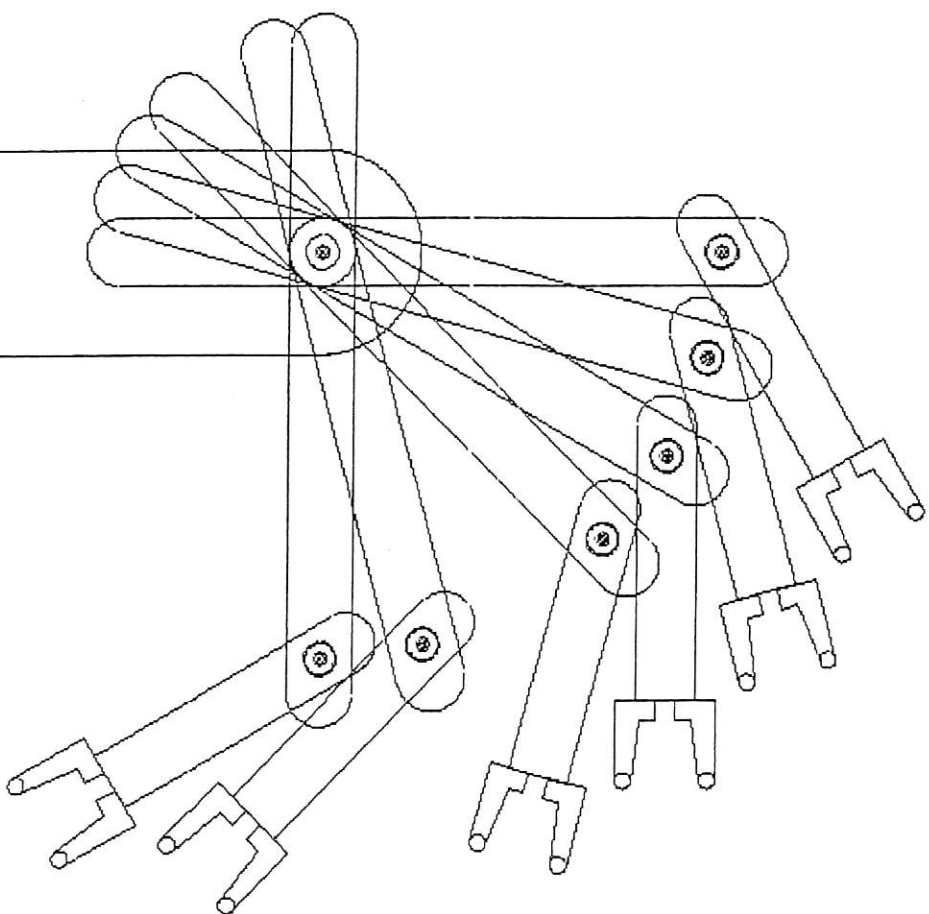
\*theta\_1 = 45.0

\*theta\_2 = 120.0



<< \*\*\*\* ARM MOVING \*\*\*\* >>

\*L1 = 250.0      \*L2 = 5.0      \*theta\_1 = 90.0      \*theta\_2 = 60.0



<< \*\*\*\* \*\* ANIMATION \*\*\*\* \*\* >>

\*L1 = 540.0      \*L2 = 15.0      \*theta\_1 = 105.0      \*theta\_2 = 31.2

