PROJECT THREE: MILESTONE 3 – COVER PAGE

Team Number: Thurs-22

Please list full names and MacID's of all *present* Team Members

Full Name:	MacID:
Armon Bal	bala4
Jiayue Zhu	zhu3
Nolan Roney	roneyn1
Pratha Bhat	bhatp3
Vaisnavi Shanthamoorthy	shanthav

MILESTONE 3 (STAGE 1A) – WORKFLOW PSEUDOCODE (COMPUTATION SUB-TEAM)

Team Number: Thurs22

You should have already completed this task individually *prior* to Design Studio 15.

1. Write out a pseudocode outlining the *high-level workflow* of your computer program on the following page
   → Only one team member is responsible for this task (not *both*)
   → Be sure to clearly indicate who each code belongs to

We are asking that you submit your work on both worksheets. It does seem redundant, but there are valid reasons for this:

- Each team member needs to submit their pseudocode with the **Milestone Three Individual Worksheets** document so that it can be ***graded***
- Compiling your individual work into this **Milestone Three Team Worksheets** document allows you to readily access your team member's work
  - This will be especially helpful when completing ***Stage 3*** of the milestone

Team Number: Thurs-22

Name: Jiayue Zhu	MacID: zhu3

*Write out a pseudocode outlining the **high-level workflow** of your computer program in the space below.*

Start

Rotate the turntable.

Check whether the pick-up location has a container or not.

Keep rotating until there is a container.

Define a function to classify the container.

If the container is metal, type == metal

Elif the container is opaque and plastic, type == opaque plastic

Elif the container is opaque and paper, type == opaque paper

Else: type == garbage

Q-arm picks up the container.

Q-arm drops off the container on the hopper on Q-bot.

Define a function to move the Q-bot to the correct bin (determine the distance Q-bot moves, distance is the attributes)

If type == metal, Q-bot goes to bin01, distance == 0cm.

If type == opaque paper, Q-bot goes to bin02, distance == 25cm.

If type == opaque plastic, Q-bot goes to bin03, distance == 50cm.

If type == garbage, Q-bot goes to bin04, distance == 75cm.

Q-bot moves to the correct bin.

Hopper in Q-bot rotates for the container to fall into the bin.

Hopper returns to home position.

Q-bot returns to home position.

MILESTONE 3 (STAGE 1B) – WORKFLOW FLOWCHART / STORYBOARD (COMPUTATION SUB-TEAM)

Team Number:	Thurs-22

You should have already completed this task individually *prior* to Design Studio 15.

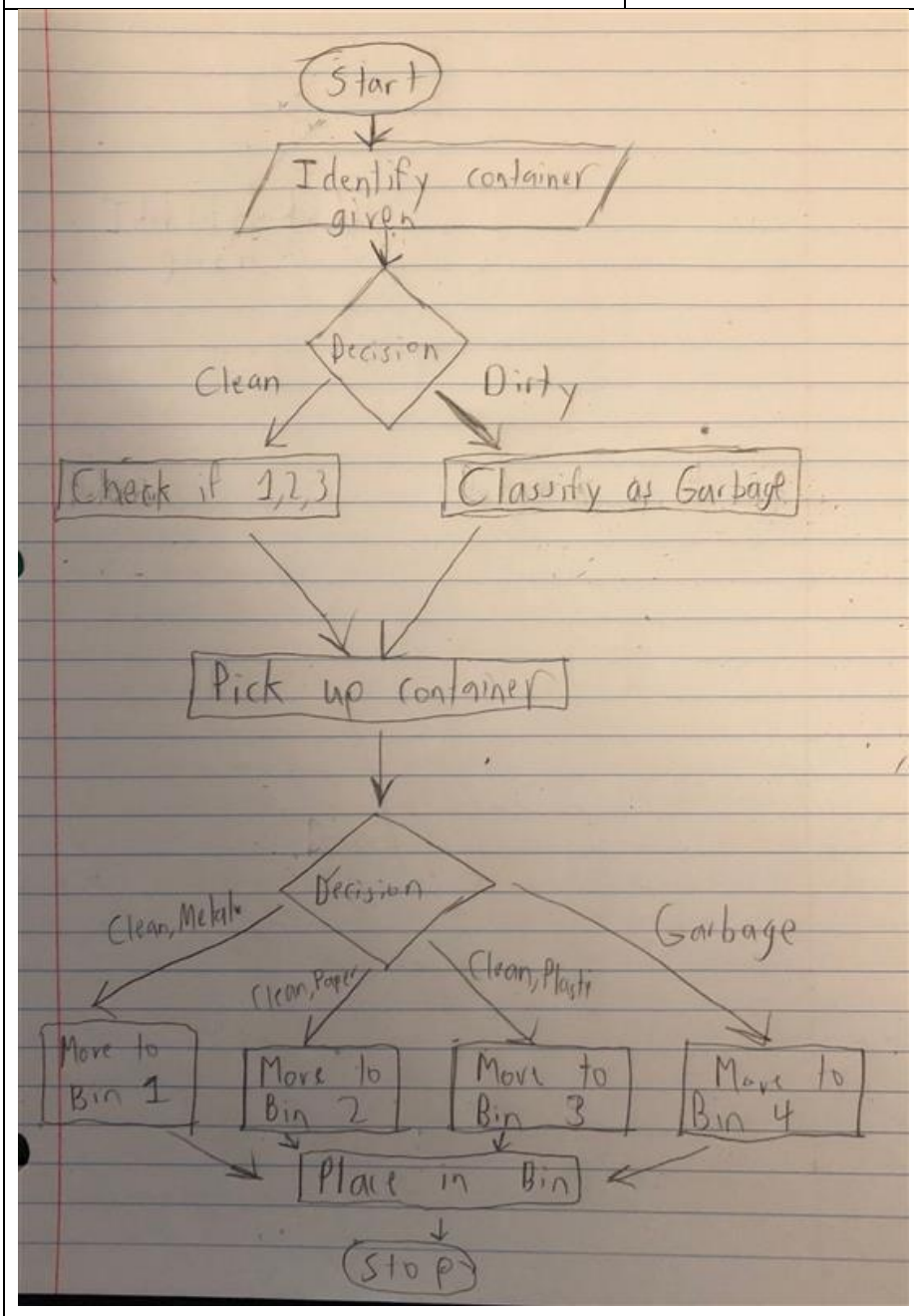
1. Only one team member is responsible for this task (not *both*)
2. Copy-and-paste your flowchart or storyboard on the following page
   → Be sure to include your Team Number, Name and MacID
3. Take a photo of your flowchart / storyboard
4. Insert your photo as a Picture (Insert > Picture > This Device)

We are asking that you submit your work on both worksheets. It does seem redundant, but there are valid reasons for this:

- Each team member needs to submit their flowchart/storyboard screenshots with the **Milestone Three Individual Worksheets** document so that it can be ***graded***
- Compiling your individual work into this **Milestone Three Team Worksheets** document allows you to readily access your team member's work
  - This will be especially helpful when completing ***Stage 3*** of the milestone

Team Number: Thurs - 22

Name: Armon Bal	MacID: bala



MILESTONE 3 (STAGE 2) – DETAILED SKETCHES (MODELLING SUB-TEAM)

Team Number: Thurs-22

You should have already completed this task individually *prior* to Design Studio 15.

1. Copy-and-paste each sub-team member's detailed sketch on the following pages (1 sketch per page)
   → Be sure to indicate each team member's Name and MacID

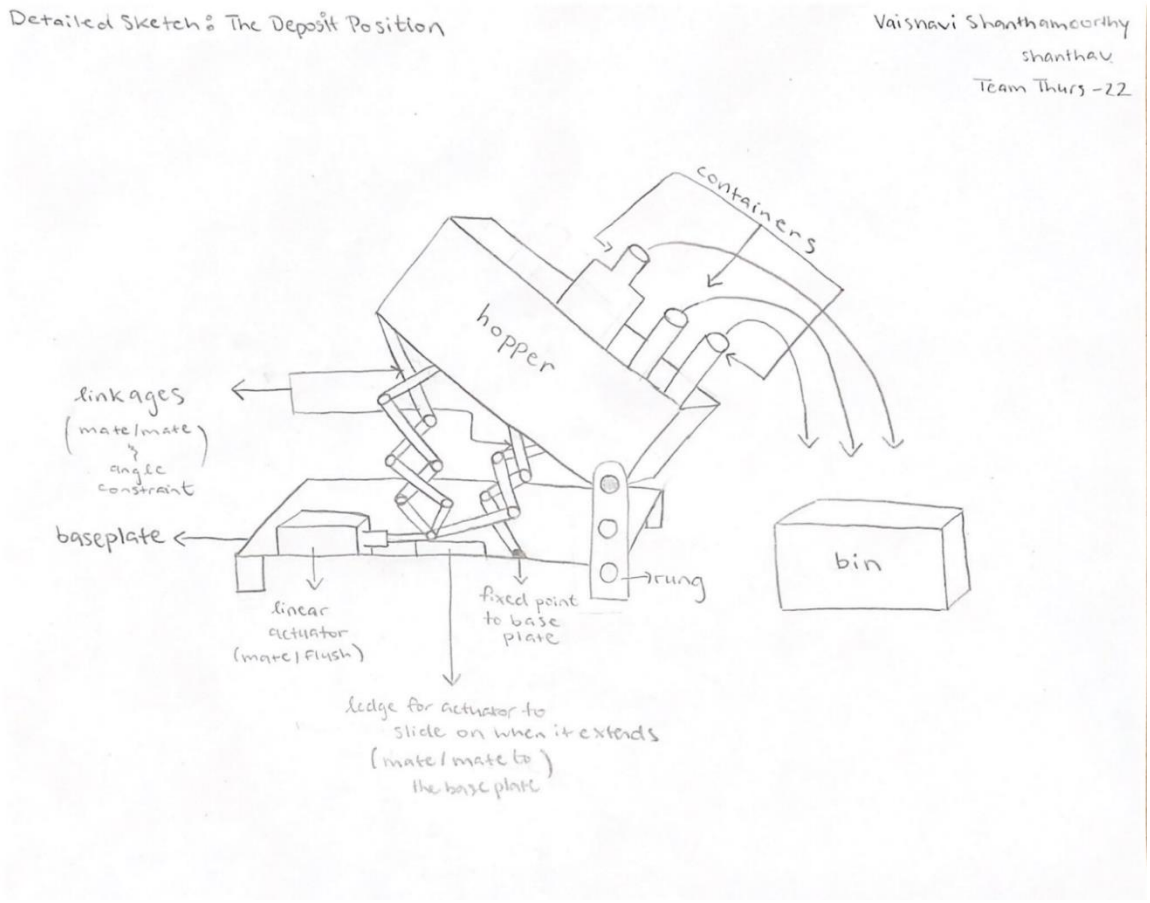
We are asking that you submit your work on both worksheets. It does seem redundant, but there are valid reasons for this:

- Each team member needs to submit their detailed sketches with the **Milestone Three Individual Worksheets** document so that it can be ***graded***
- Compiling your individual work into this **Milestone Three Team Worksheets** document allows you to readily access your team member's work
  - This will be especially helpful when completing ***Stage 4*** of the milestone

Team Number: Thurs-22

Name: Vaisnavi Shanthamoorthy	MacID: shanthav

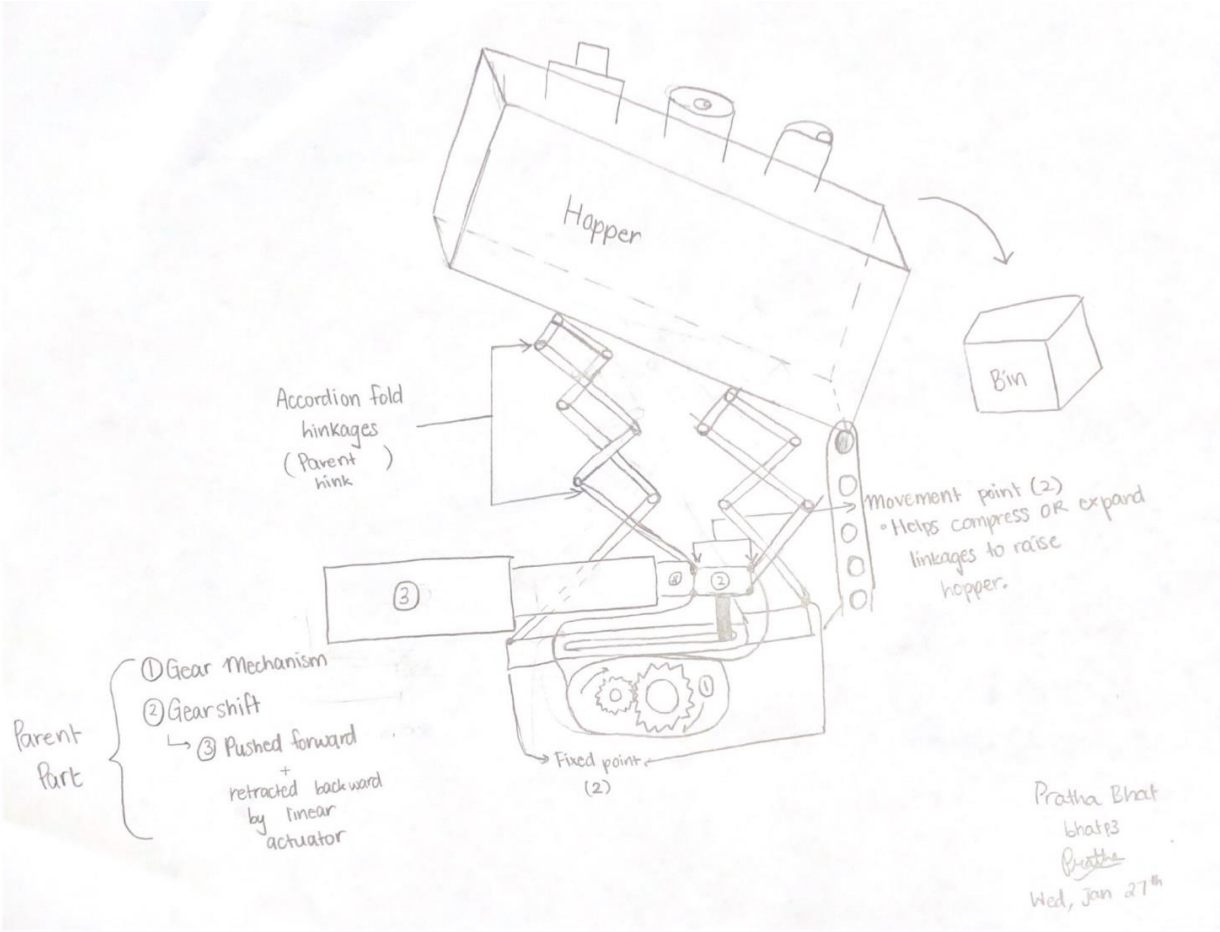
Insert screenshot(s) of your detailed sketch below.



Team Number: Thurs-22

Name: Pratha Bhat	MacID: bhatp3

Insert screenshot(s) of your detailed sketch below.

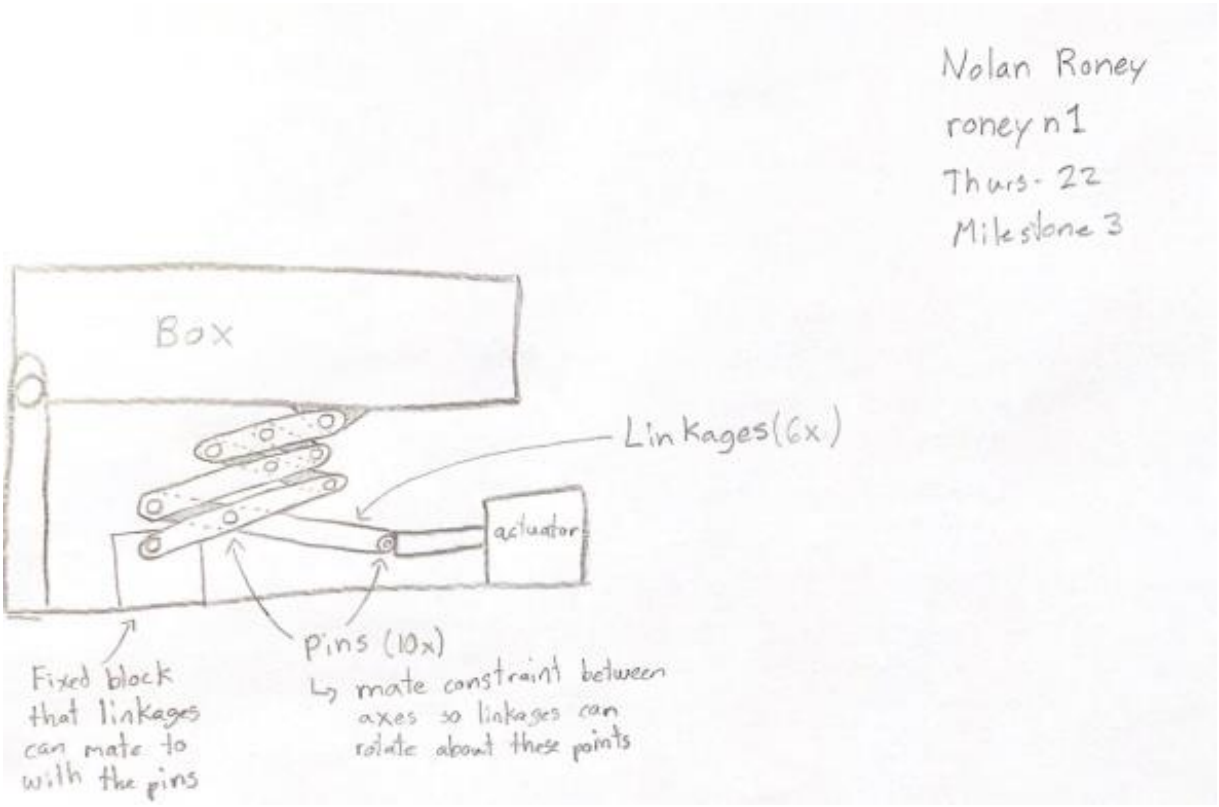


*If you are in a sub-team of 3, please copy and paste the above on a new page.

Team Number: Thurs-22

Name: Nolan Roney	MacID: roneyn1

Insert screenshot(s) of your detailed sketch below.



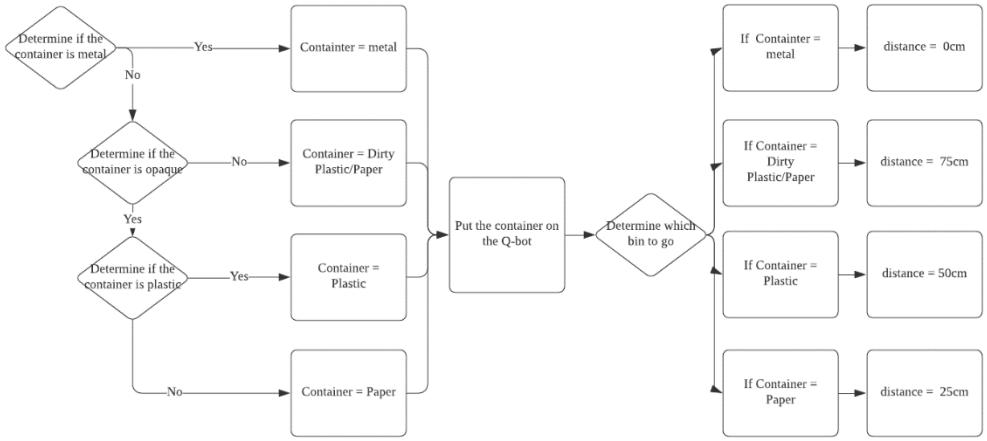
*If you are in a sub-team of 3, please copy and paste the above on a new page.

MILESTONE 3 (STAGE 3) – PROGRAM TASK PLANNING (COMPUTATION SUB-TEAM)

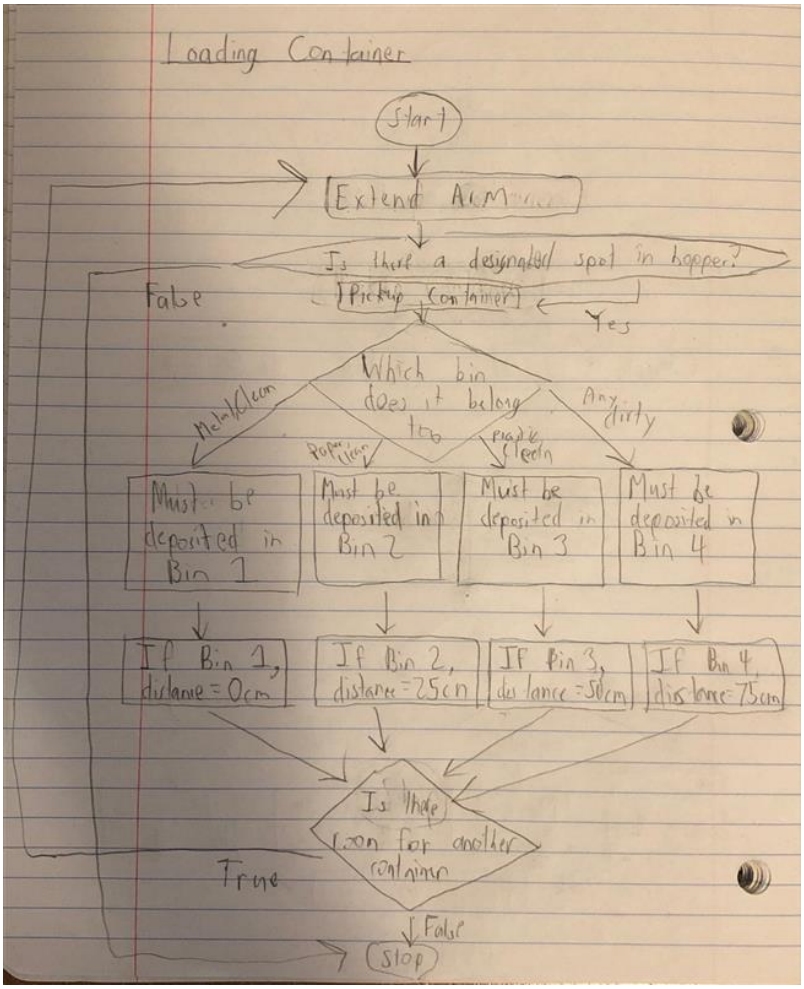
Team Number: Thurs - 22

1. As a team, write out the pseudocode or create a flowchart for the indicated tasks in the space below.
   → If creating a flowchart, complete your flowchart on a separate sheet of paper, take a photo of your sketch and insert photo as a Picture (Insert > Picture > This Device)

Dispense Container



Load Container



Transfer Container

Define a function for the Q-bot to stop once it next to the correct position.

If distance == 0 cm:

    Q-bot moves a cm

Else if distance == 25 cm:

    Q-bot moves b cm

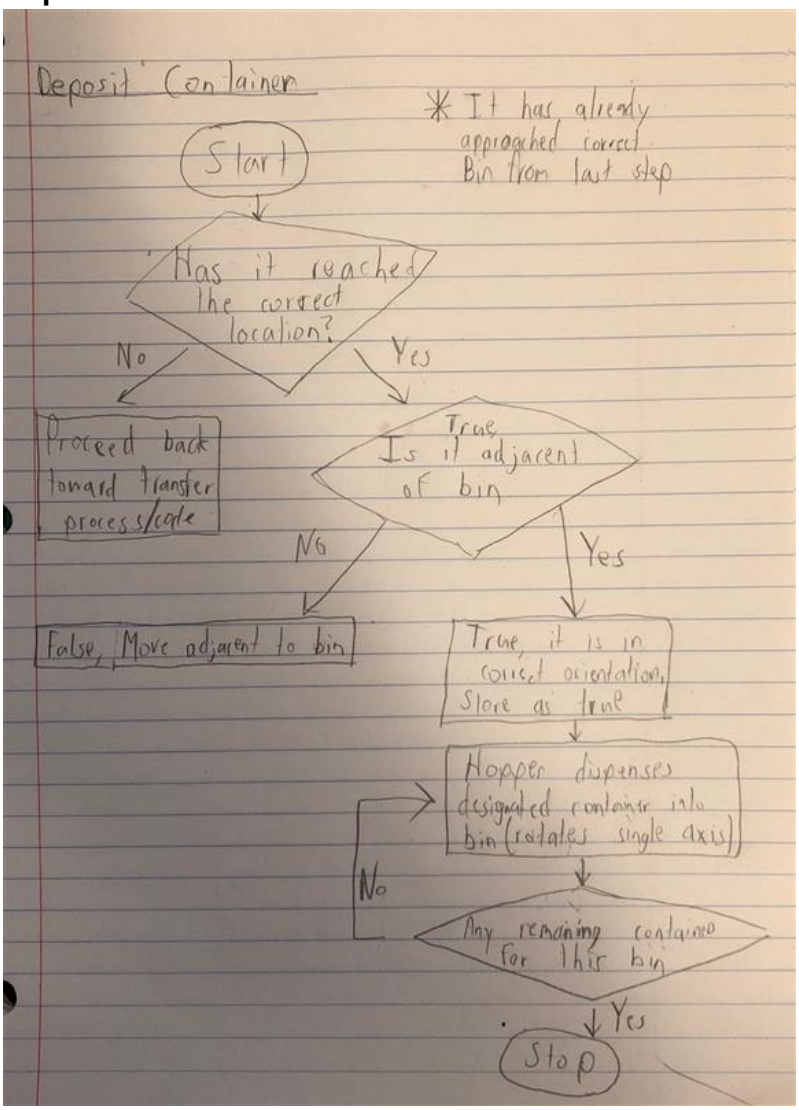
Else if distance == 50 cm:

    Q-bot moves c cm

Else:

    Q-bot moves d cm

Deposit Container



Return Home

#controlling the movement of the Q-bot until it gets to the home position

Q-bot rotates to the direction towards the turntable.

Q-bot moves forward, following the line on the floor.

Q-bot stops moving when it reaches the end of the line.

Q-bot rotates certain degrees, towards the pick-up location on the turntable.

MILESTONE 3 (STAGE 4) – PRELIMINARY MODELLING (MODELLING SUB-TEAM)

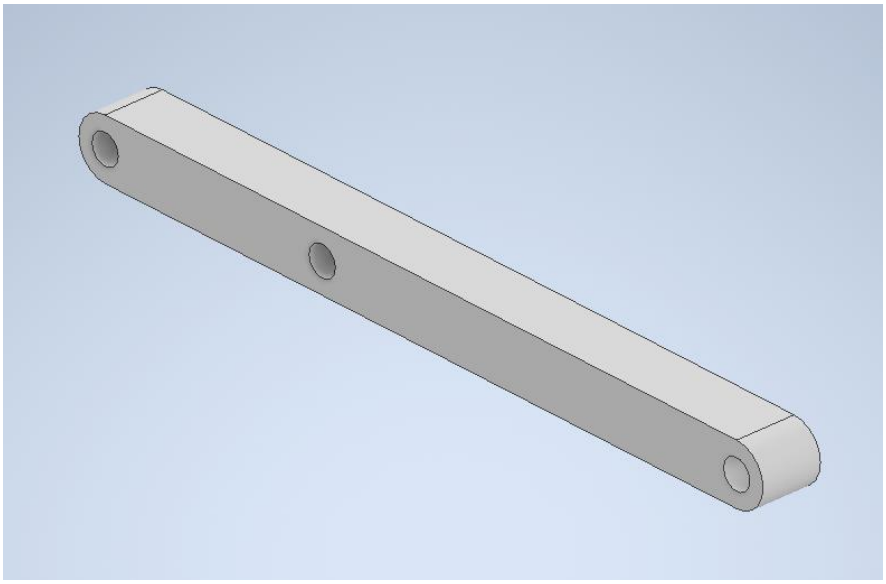
Team Number: Thurs-22

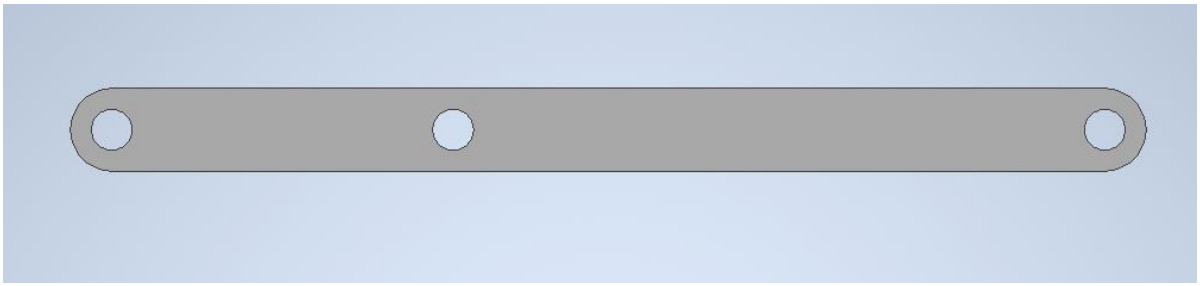
1. As a team, create solid models of the various components of your device in Autodesk Inventor, based on the detailed sketches.
   → Take multiple screenshots of each solid model you create
   → Insert your photo(s) as a Picture (Insert > Picture > This Device)
   → **Do not include more than *two* solid modelling screenshots per page**

Team Number: Thurs-22

Name: Nolan Roney	MacID roneyn1

Insert screenshot(s) of your model below.





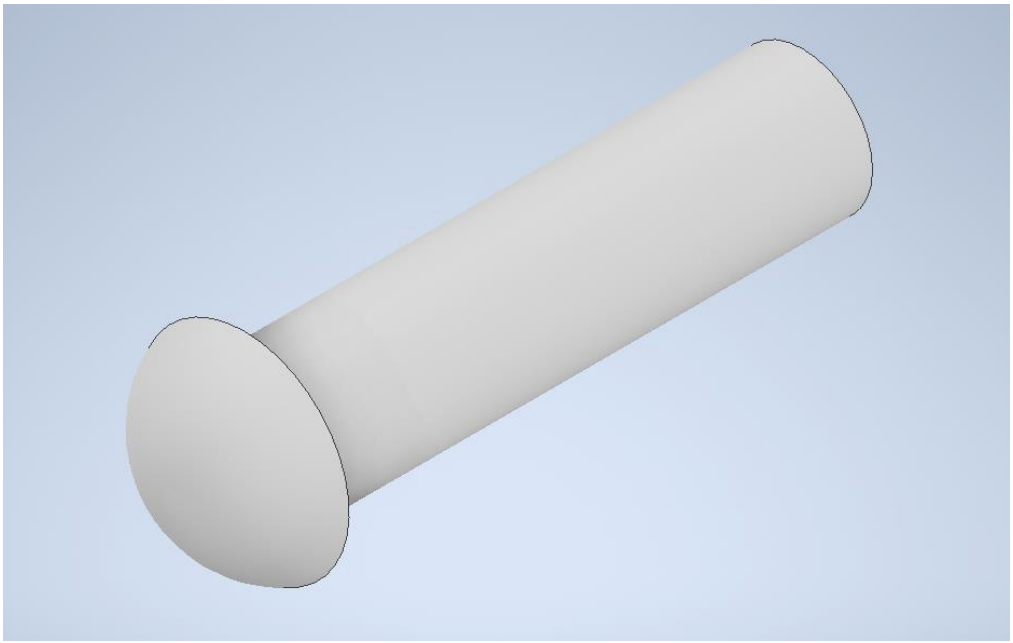
Long – Linkage Piece

*Limit screenshots to no more than 2 per page. For additional screenshots, please copy and paste the above on a new page

Team Number: Thurs-22

Name: Nolan Roney	MacID roneyn1

Insert screenshot(s) of your model below.



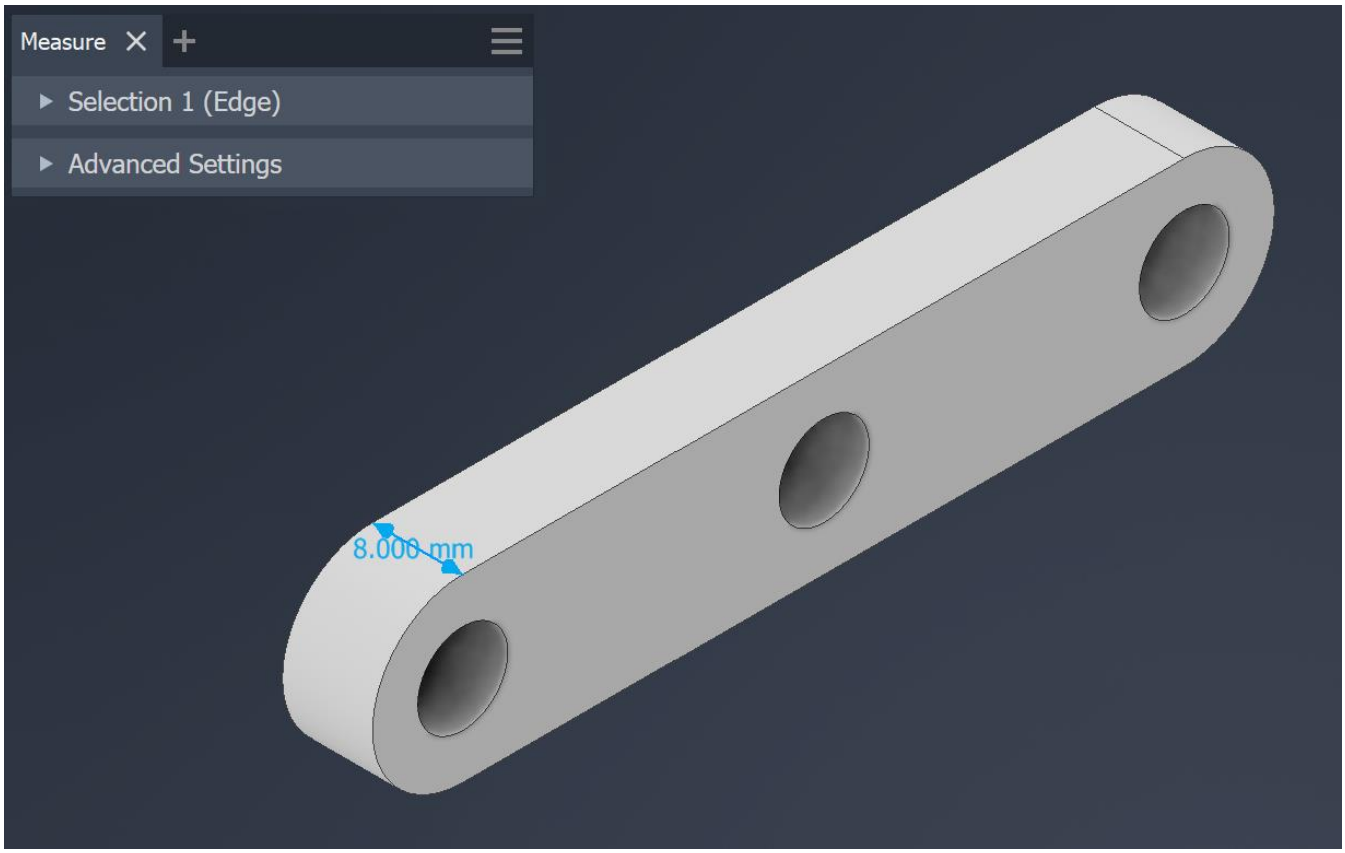
Pin

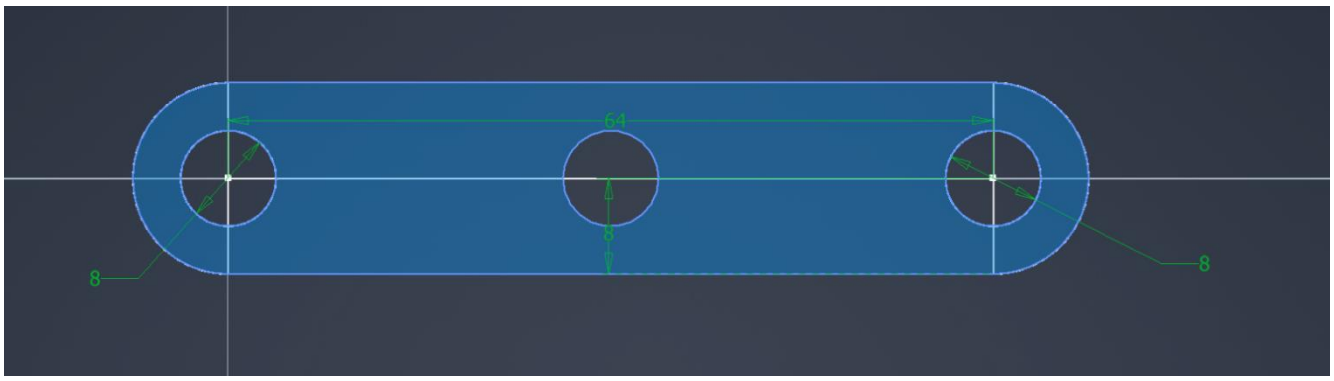
*Limit screenshots to no more than 2 per page. For additional screenshots, please copy and paste the above on a new page

Team Number: Thurs-22

Name: Pratha Bhat	MacID: bhatp3

Insert screenshot(s) of your model below.





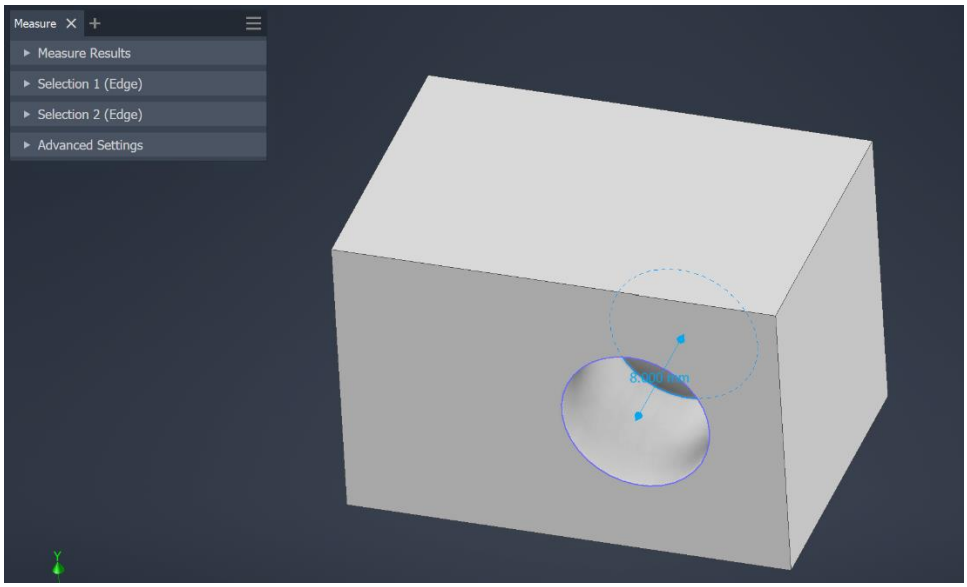
Medium – Linkage Piece

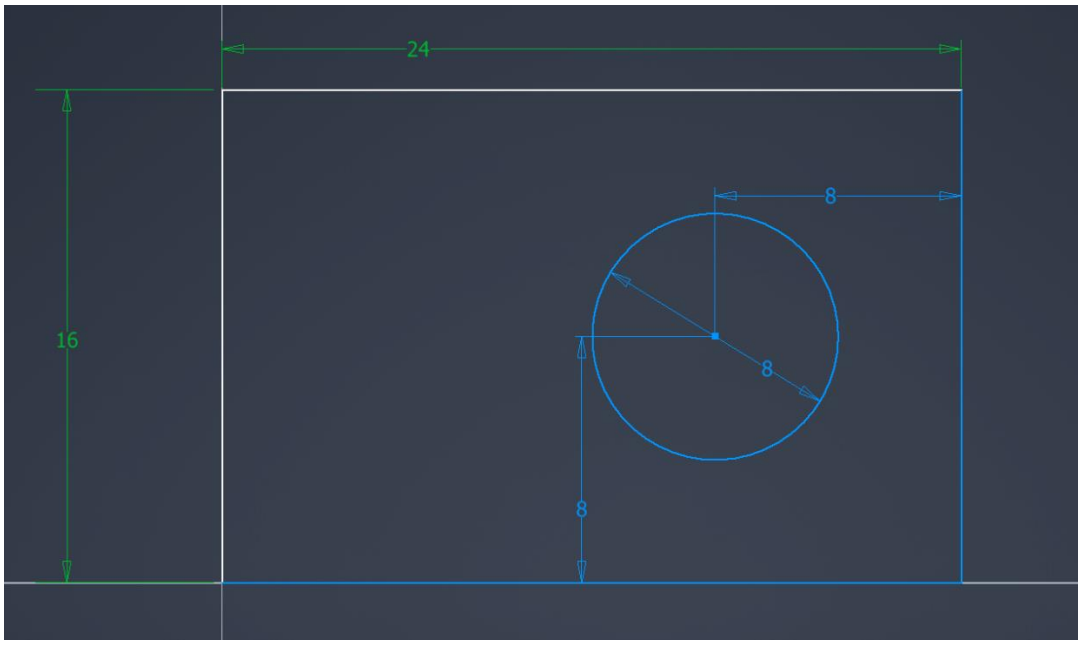
*Limit screenshots to no more than 2 per page. For additional screenshots, please copy and paste the above on a new page

Team Number: Thurs-22

Name: Pratha Bhat	MacID: bhatp3

Insert screenshot(s) of your model below.





BasePiece

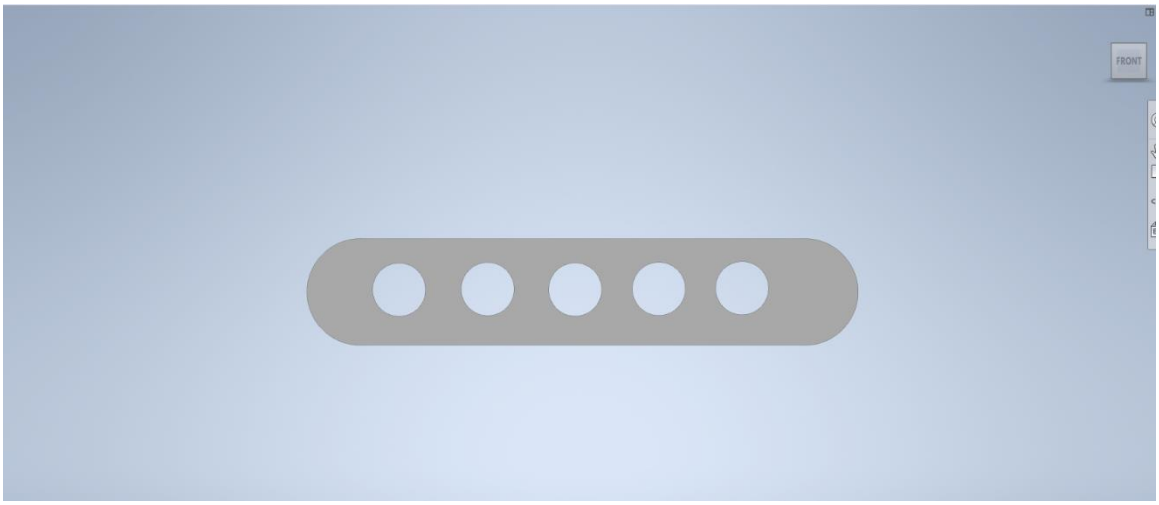
*Limit screenshots to no more than 2 per page. For additional screenshots, please copy and paste the above on a new page

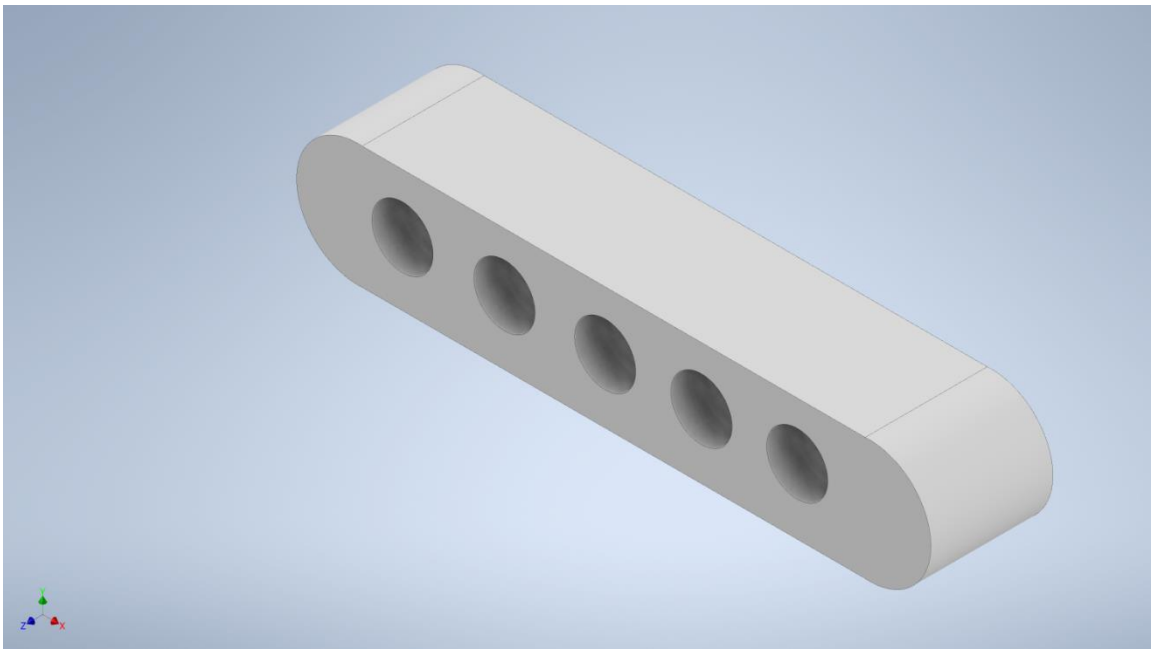
Team Number: Thurs-22

Name: Vaisnavi Shanthamoorthy	MacID: shanthav

Insert screenshot(s) of your model below.

Screenshots for the solid model for the shortest linkage:





Short – Linkage Piece (1)

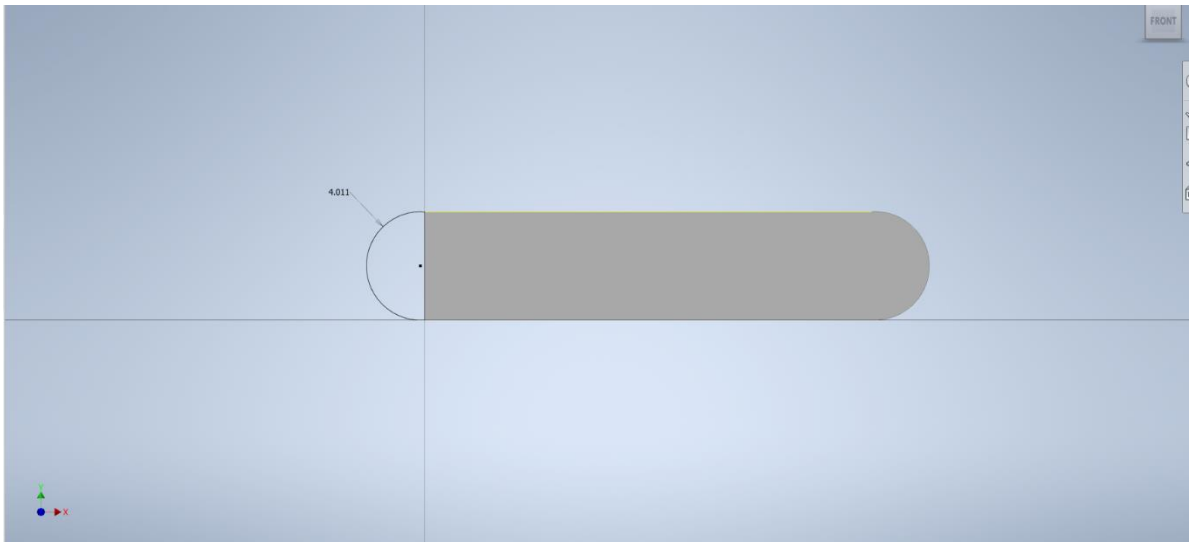
*Limit screenshots to no more than 2 per page. For additional screenshots, please copy and paste the above on a new page

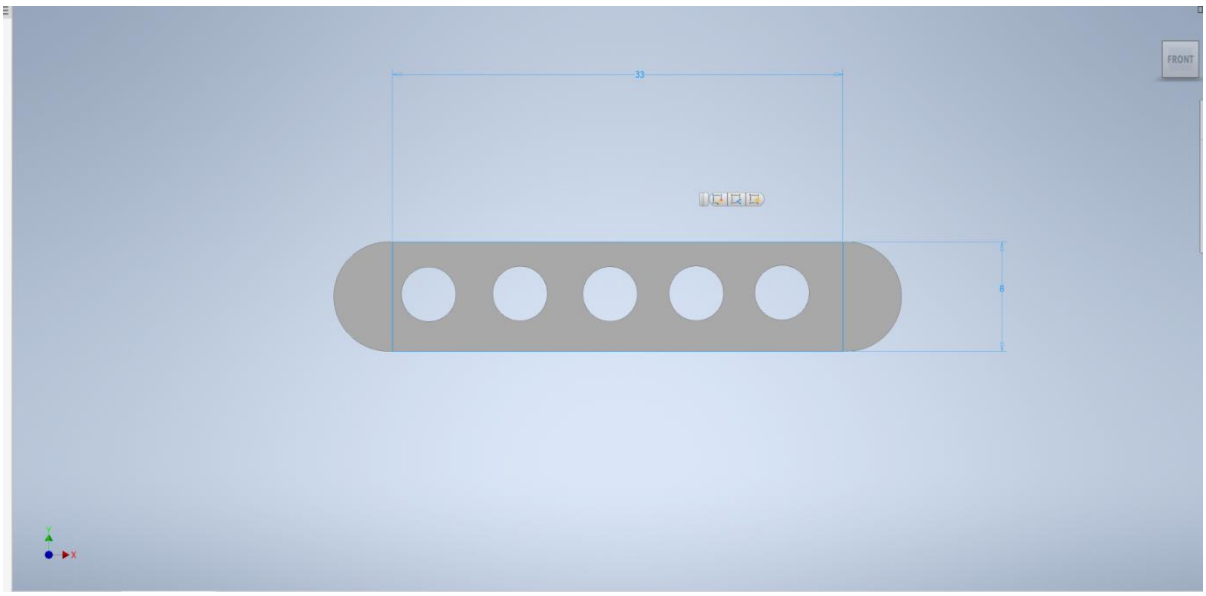
Team Number: Thurs-22

Name: Vaisnavi Shanthamoorthy	MacID: shanthav

Insert screenshot(s) of your model below.

Screenshots of the solid model for the shortest linkage(continued):





Short – Linkage Piece (2)