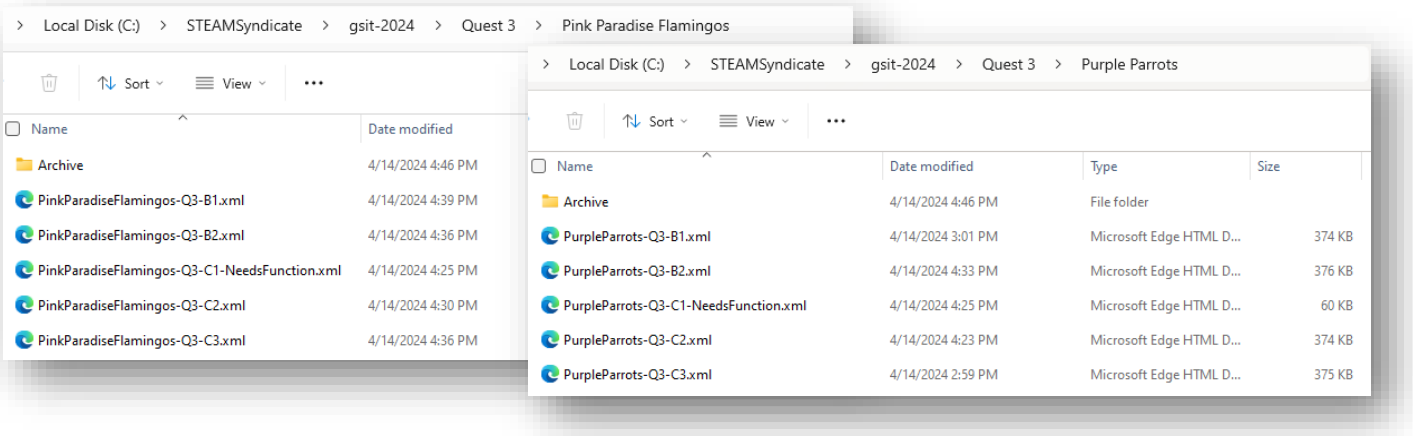
Quest 3 – Checklist

- ❑ Watch video about Challenge 1
- ❑ Update code for Challenge 1
- ❑ Complete Challenge 2
- ❑ Add lights/sounds to Challenge 3 [Optional but Recommended]
- ❑ Complete Bonus 2

- ❑ Record Intro
- ❑ Record Quest 3 Challenge 1
- ❑ Record Quest 3 Challenge 2
- ❑ Record Quest 3 Challenge 3
- ❑ Record Quest 3 Bonus 1
- ❑ Record Quest 3 Bonus 2
- ❑ Record “Thank You”

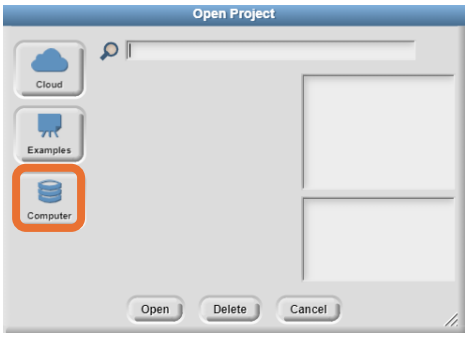
Snap! File Management

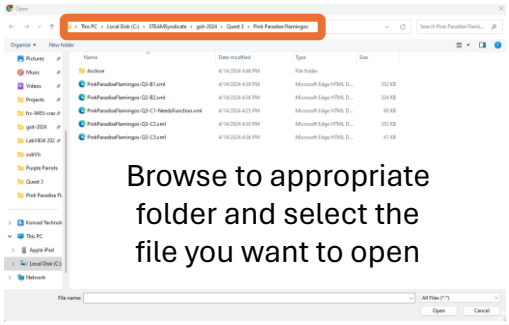
All Girls Solve IT files are saved locally on disk and backed up to the STEAM Syndicate GitHub. You can find all of your team's quest 3 files in the following disk location: C:\STEAMSyndicate\gsit-2024\Quest 3\<team name>



Open Files

Navigate to https://snap.berkeley.edu/snap/snap.html# -or- launch from the Bluebird Connector software. Click on the file and select "Open" the select "Computer" in the next dialog and pick a file.

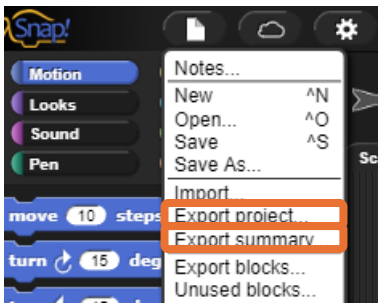


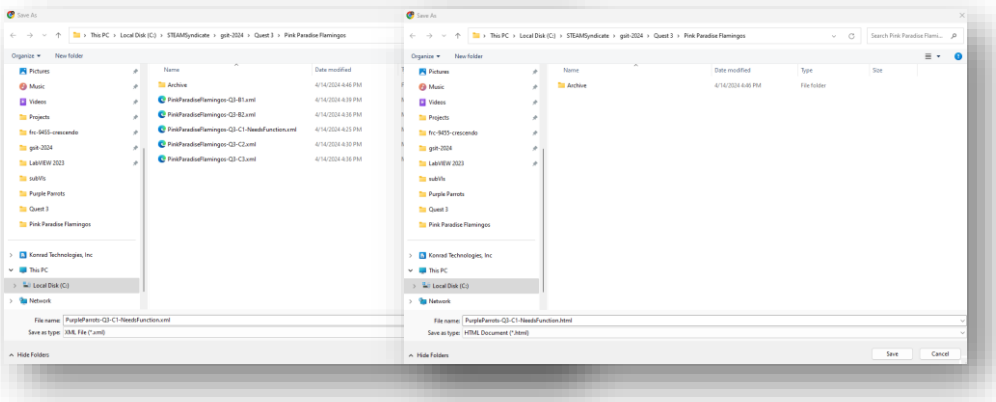


Browse to appropriate folder and select the file you want to open

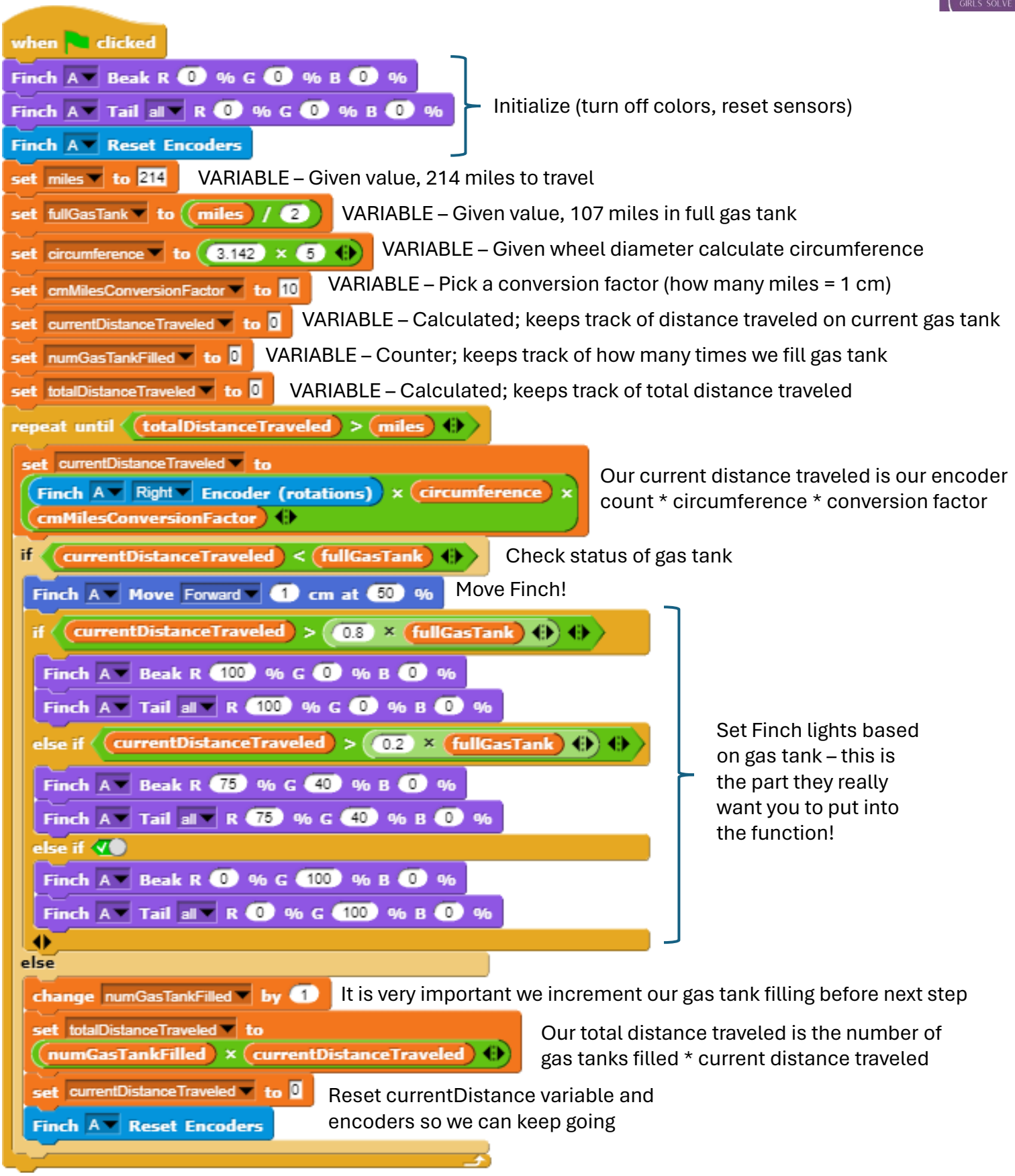
Export Project / Summary

Click on the file icon and select "Export project…". A windows prompt will appear allowing you to save the project to disk. You need to repeat this action except select "Export summary…" to generate a file that has images of your project. The files generated are different (*.xml vs. *.html).





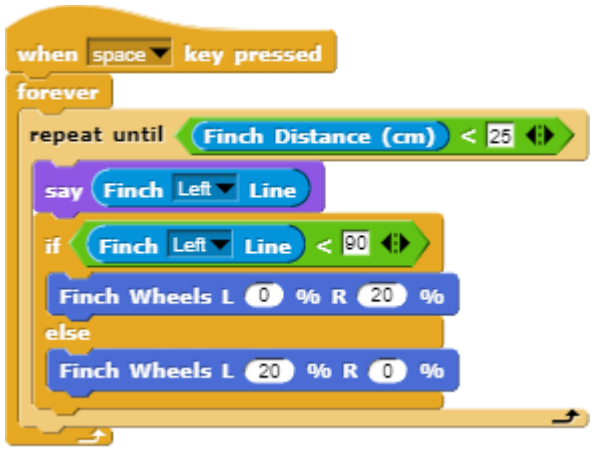
Quest 3 – Challenge 1



Ideally you add some sort of notification (Microbit Lights, sound, etc.) in the "else" case to indicate that Finch is filling up her gas tank!

Quest 3 – Challenge 2

- **Program Finch to follow the black line path set for the trolly tour using the line tracking sensors**
- **Traverse the entire path of the tour.**
- **Add sounds / lights/ or anything else to convey Finch's excitement while sightseeing**



This is a great start to challenge 2 but you are missing the last requirement – "Add sounds/lights/anything else to convey Finch's excitement while sightseeing"

Quest 3 – Challenge 3

- Place ping pong ball on the paper cup
- Tape the plastic fork to the straw to make a jousting stick.
- Tape the jousting stick to your Finch robot.
- Place Finch about 60 cm (2 feet) back and 30 cm (1 feet) over from the paper cup
- Program Finch to move forward 60 cm (2 feet) and 30 cm (1 feet) to the right, towards the paper cup
- Program Finch to spin around when near the cup to knock the ping pong ball of the cup using the jousting stick

This meets the minimum requirements (provided you setup the ping pong ball and distances appropriately. For bonus points consider adding lights/sounds!

Ideally you add some sort of notification (Microbit Lights, sound, etc.) in the “else” case to indicate that Finch is filling up her gas tank!

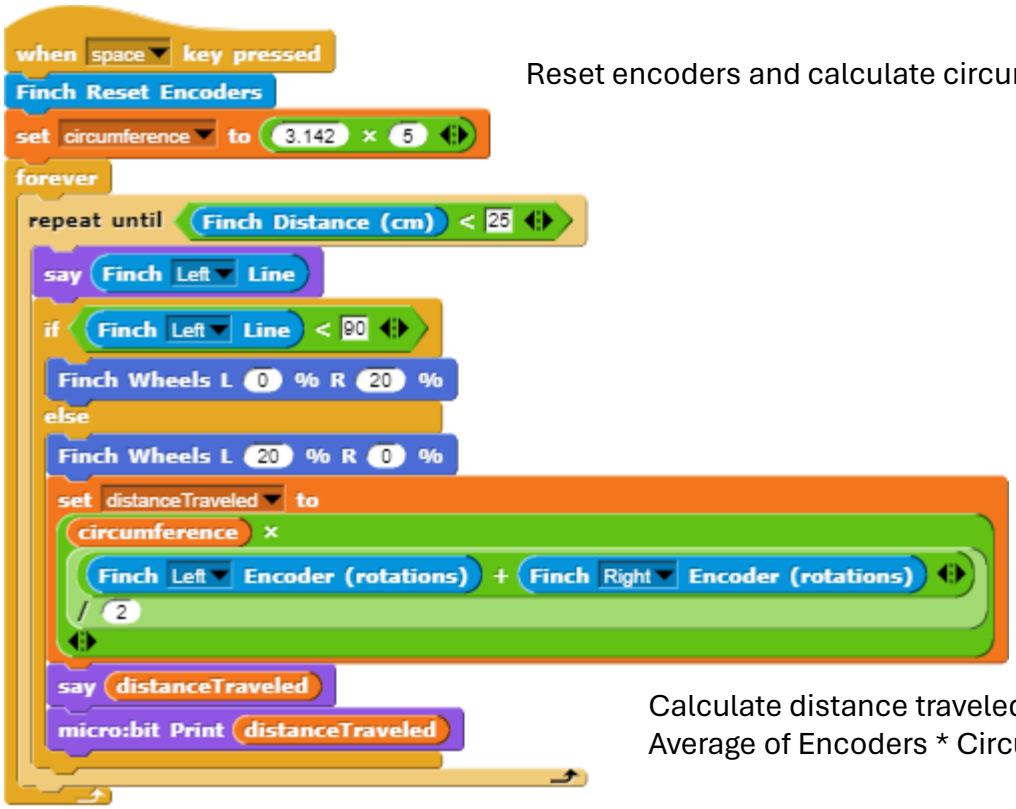
Quest 3 – Bonus 1

- Paste the images of the obstacles onto the cups and place the cups along the path at the marked positions.
- Program Finch to follow the black line path set for the trolly tour using the line tracking sensors
- Program finch to use the distance sensors to look out for any obstacles along the path
- Program a function that gets called every time Finch is near an obstacle. This function should have Finch
  - Move around the obstacle
  - Come back to the designated black line path
- Finch should continue to traverse forward through the tour each time she returns to the path after overtaking the obstacle
- Traverse the entire tour without crashing into any obstacle

Good job! One minor change – put the code that moves Finch "around" the object in a single function. Also if you have time add lights/sounds for Finch. She should be mad if something is in her way and happy if she gets around!

Quest 3 – Bonus 2

- **Use Finch Encoders block to calculate the total distance travelled along the entire tour**
- **Program Finch to display the calculated total distance**



Reset encoders and calculate circumference

Calculate distance traveled...
Average of Encoders * Circumference

Show result to user somehow (microbit, etc)

Script Template

Intro

EVERYONE*: "Hi! We are the Purple Parrots and this is our solution to quest 3!"*

Challenge 1

NARRATOR*: Finch is loving this road trip! Before getting back on the road, Finch checks her gas gauge and decides to setup a quick alert to let her know when she's running low on gas. Finch's road trip is 214 miles long, and the gas tank allows her to travel 107 miles.*
<Add more details of challenge/fun comments while Finch is moving>
<Explain code>

Challenge 2

FINCH: *"Ah great, now my tank is all filled up for some sightseeing!"*.
NARRATOR: *Finch had read up on a lot of fun stuff to see in Atlanta and was really looking forward to this pitstop! She decides to take a trolly tour around the city so that she can cover multiple locations in a short time. Her tour will cover:*
- *Centennial Olympic Park*
- *Martin Luther King Jr. National Historic Site*
- *The Woodruff Arts Center*
- *Georgia State Capitol*

<Add more details of challenge/fun comments while Finch is moving>
<Explain code>

Challenge 3

FINCH *“Ah finally my tank is all filled up and it’s time to head off straight to Florida!! Next stop- the amusement park! “*
NARRATOR*: Finch hummed along with the crickets in the night sky, merrily continuing her journey. She halted to a stop as she noticed a humongous boulder blocking her path! It was too wide to go around it. Finch could of course fly over it, but she knew that humans coming this way would get stuck. Her second nature to help others prevented her from going her own way. She notices a big log a wood by the side of the road. She decides to use the log of wood as a jousting stick to knock the boulder.*
<Add more details of challenge/fun comments while Finch is moving>
<Explain code>

Bonus 1

<Add more details of challenge/fun comments while Finch is moving>
<Explain code>

Bonus 2

<Add more details of challenge/fun comments while Finch is moving>
<Explain code>

Thank You

EVERYONE: *“Thank you”*