

Line Follower (LFS & LFK)

Effective December 07, 2022

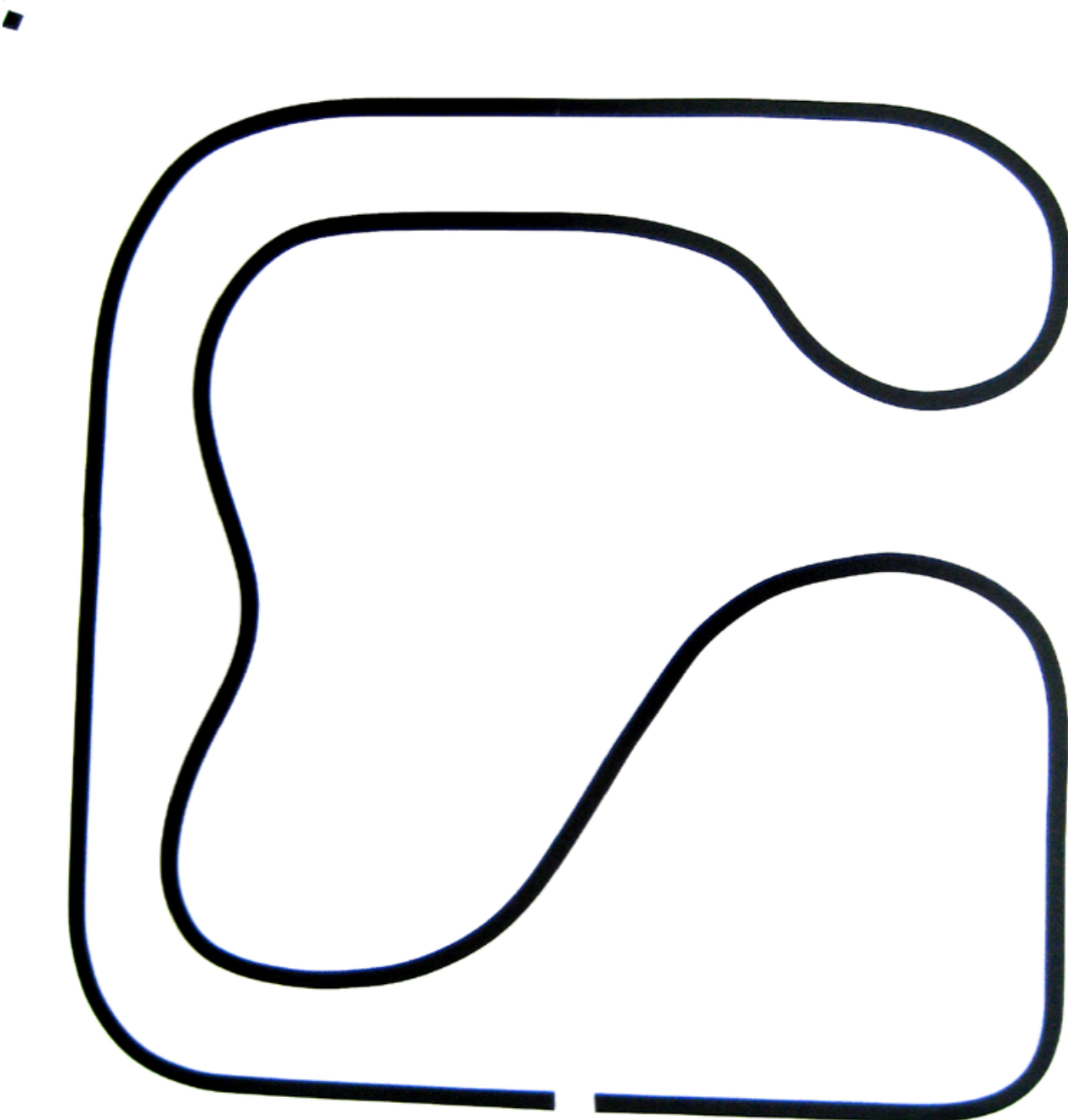
Text in RED is new for 2023

- Code: **LFS & LFK.**
- Control: Autonomous
- Open to: All up to Senior 4
- Max Robot Size: 20 cm wide
- Weight limit: None
- Playing Field Size: 4 arenas, each are 1.22 m x 1.22 m square
- Playing Field Finish: Matt White Melamine finish with nominal 19 mm wide black stripe(electrical tape).
Note: That in places where the line changes direction, the width of the stripe may vary between 1 and 36mm wide.
- Playing Field Surface: Arenas #1, 3 & 4 are flat, while arena #2 is 65% flat with two 15 degree surfaces.
- Competition Objective: "Line Follower" requires you to program your robot to follow an 19 mm wide black line around each of four progressively harder arenas.
- Rules: **LFS (Line Follower Scratch-Built) competition is for home built robots utilizing Arduino or similar processors that have been programmed by the builder or if the program was downloaded from the internet we expect you to demonstrate how the code was extensively modified, We suggest you bring with you a printout of the code used and the original.**
- LFK, (Line Follower Kit) competition is intended for commercial robots powered with 3pi, or other similar processors.**
- The** line shall be no closer to the boundary than 12 cm. but may draw close to or even cross another black line.
- There** is no weight or height limit.
- The** arenas are numbered 1 - 4 and each competing robot will be expected to attempt all four arenas.
- Each** arena will have a 25mm high wall around the perimeter to constrain runaway robots.
- Each** robot will have **up to 3 minutes** to complete each arena
- Following** a failed attempt, a competitor may request from the judge the ability to make a second attempt at an arena. This is not a right and will be granted only at the discretion of the Judge and dependent upon scheduling.
- Competitors** may elect to take a break between arenas to recharge or re-tweak sensors or programming. A test track that includes an example of each track detail will be available for adjustment and testing.

It is understood that contestants may require significant assistance in the design and/or construction of the Line Follower robot and that they are encouraged to seek out suitable expertise. Manitoba Robot Games planning committee are prepared to help make suitable connections with the electronic engineering community in support of Manitoba students. Contact Herb Reynolds for more information (Herb's contact information is available on the MRG webpage).

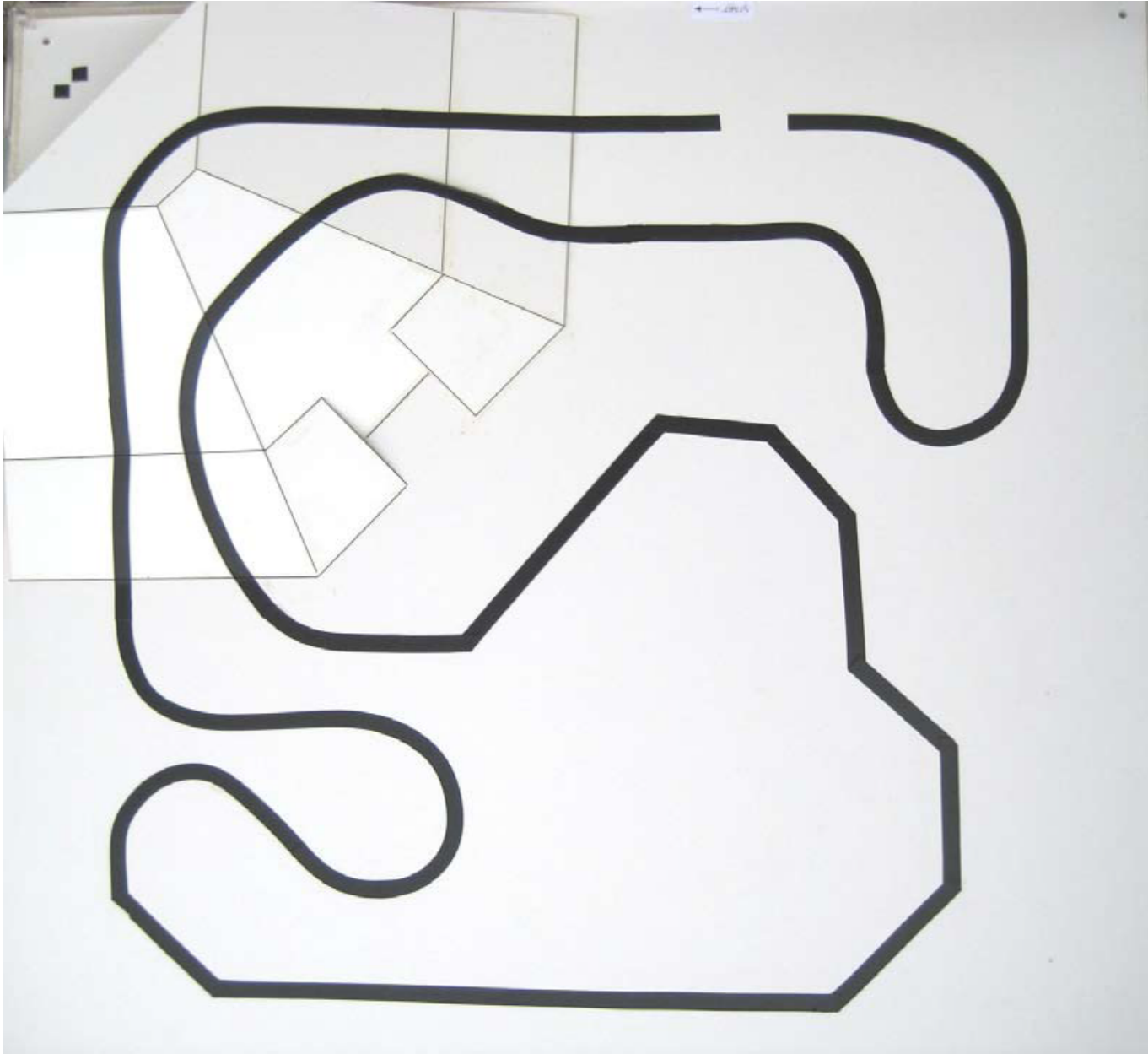
Line Follower - Arena #1

Note: This is a representation only. There may be minor differences in the actual playing field.



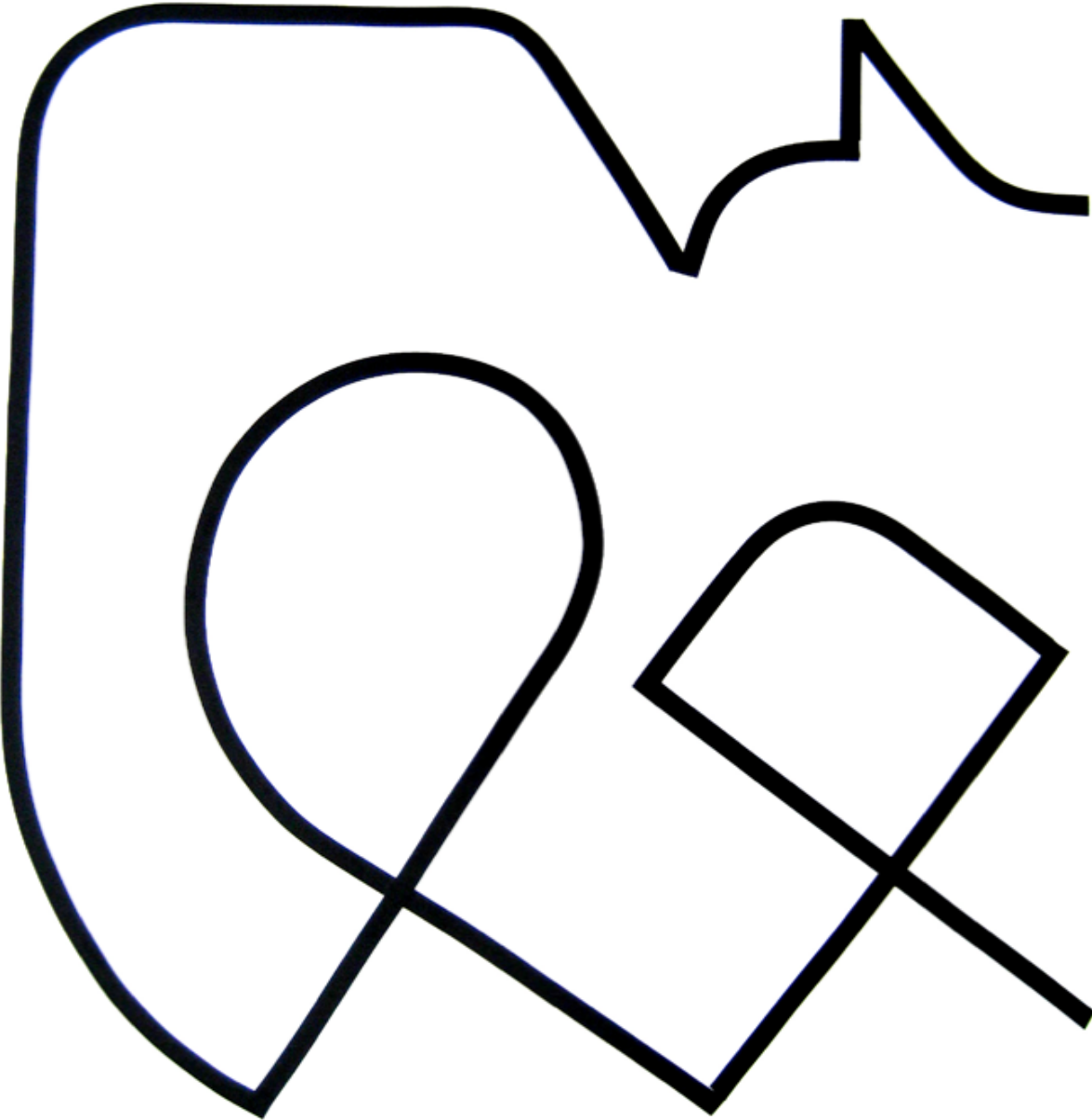
Line Follower - Arena #2

Note: This is a representation only. There may be minor differences in the actual playing field.



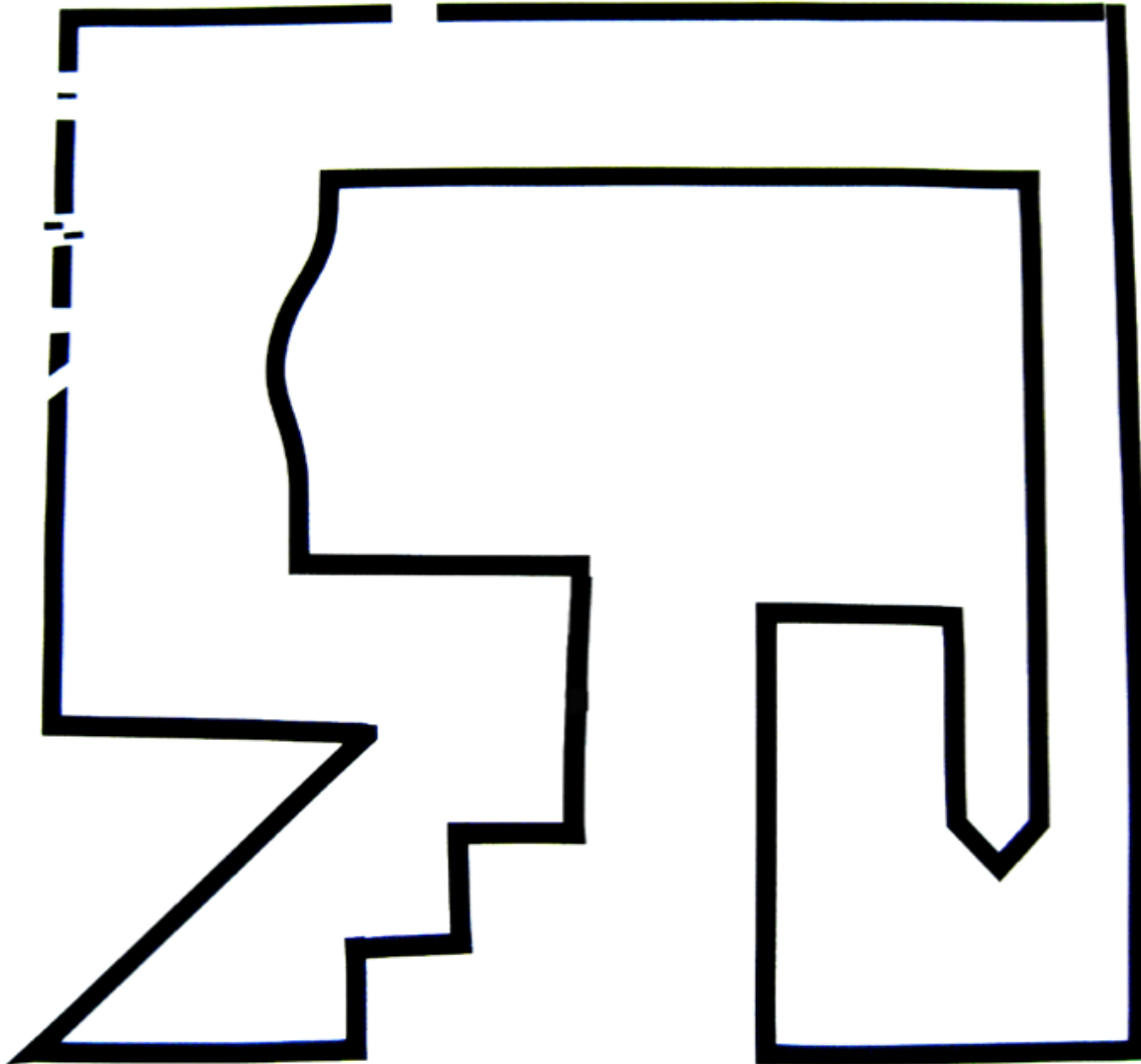
Line Follower - Arena #3

Note: This is a representation only. There may be minor differences in the actual playing field.



Line Follower - Arena #4

Note: This is a representation only. There may be minor differences in the actual playing field.



Line Follower Score Sheet

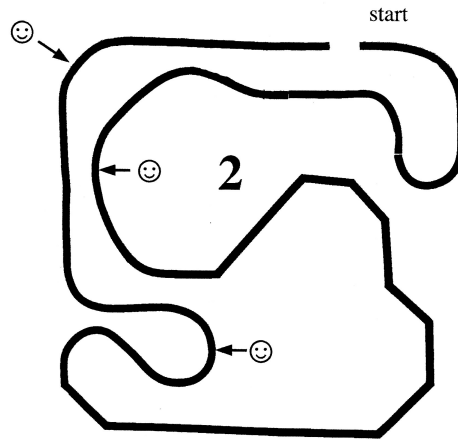
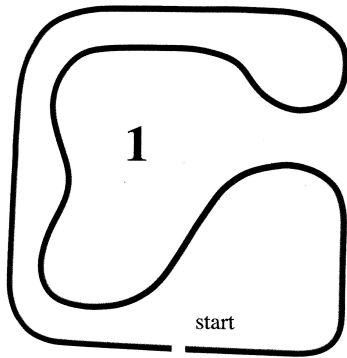
Team Leader's Name: _____ PLACE: _____
 Robot Name: _____
 Robot Designation: _____
 School: _____

Time to complete course _____ or 180 max

Time to complete course _____ or 180 max

Number of ☹ x -10 = _____

Ajusted time/score _____



Time to complete course _____ or 180 max

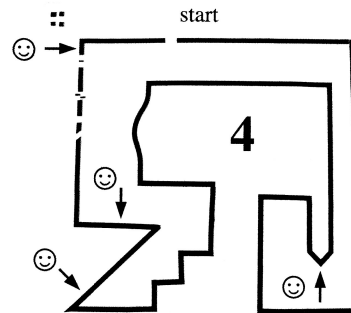
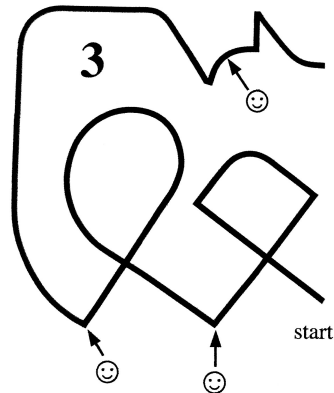
Number of ☹ x -10 = _____

Ajusted time/score _____

Time to complete course _____ or 180 max

Number of ☹ x -10 = _____

Ajusted time/score _____



Course # 1 = _____

Course # 2 = _____

Course # 3 = _____

Course # 4 = _____

Final Score = _____