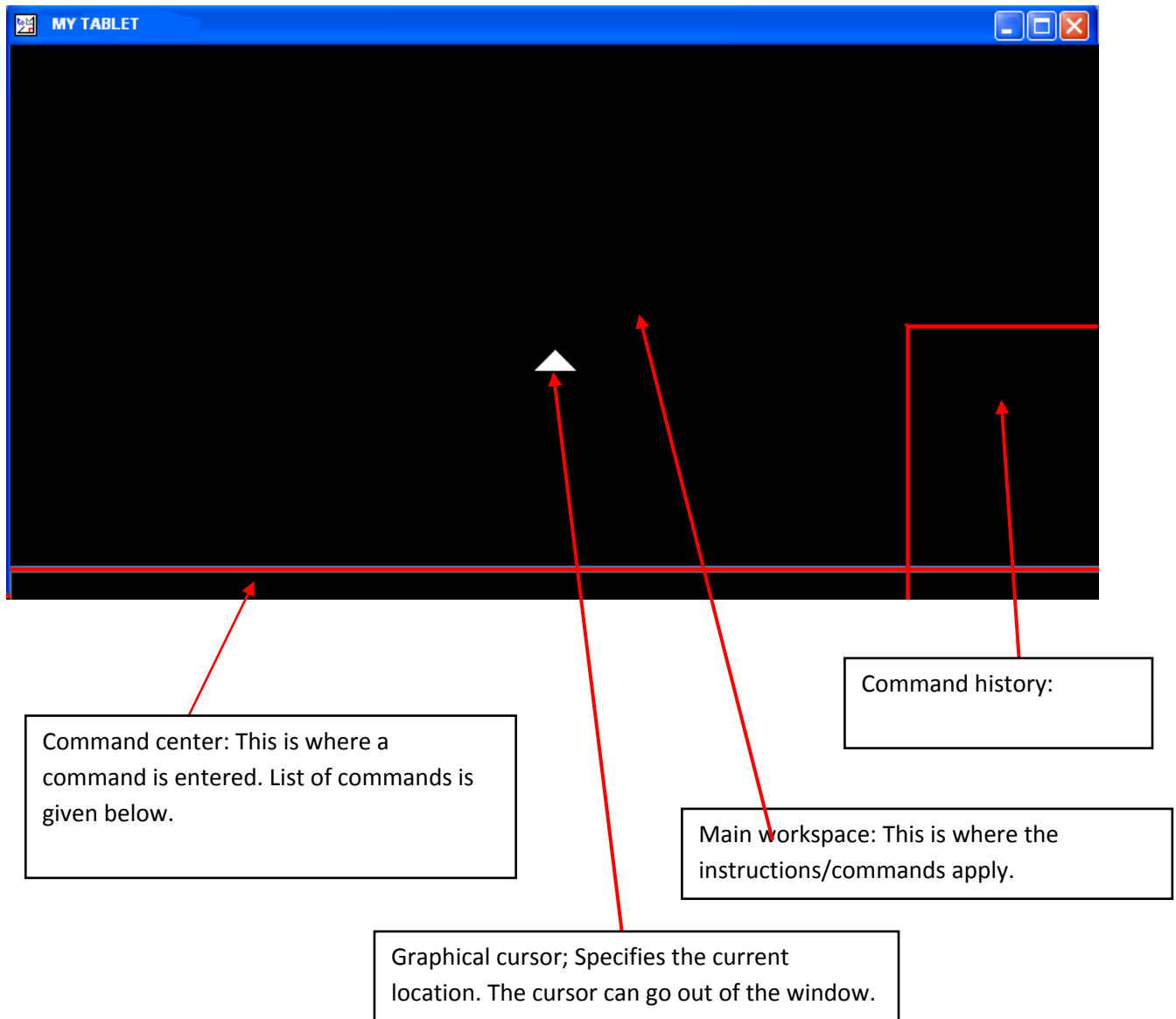# Introduction to Computing
Fall 2023
Final Project

You have to implement a simple Instructions based tablet for children. The interface is given below:

Command center: This is where a command is entered. List of commands is given below.

Command history:

Main workspace: This is where the instructions/commands apply.

Graphical cursor; Specifies the current location. The cursor can go out of the window.

Default, initial direction is up and the pen is down.

List of commands: [ALL COMMANDS MUST BE IMPLEMENTED IN SEPARATE FUNCTIONS]

Commands	Evaluation Instructions
fd or forward [e.g. forward 60] moves forward and makes a line.	no space (fd40 or forward40) or multiple spaces (fd 40) must be handled. No space between fd. If f d 30. It is an unknown command.
bk or backward [e.g. backward 60] moves backwards	
rt [rt 90] right turn only angles multiple of 30 and 45.	Still there should be no hard coding: i.e. by using repeated if-else (-2) Test for angle other than 45 e.g. 60.
lt [lt 90] left turn only angles multiple of 30 and 45	Still there should be no hard coding: i.e. by using repeated if-else (-2) Test for angle other than 45 e.g. 60.
repeat [e.g. repeat 4[fd 50 rt 90] repeat all instructions in square brackets [], n number of times. In this case n is 4.	The user can enter any number of commands. Any command can be given except save, load or repeat within repeat. Perfect 10, some 5 poor 2
pu [pen up] pd [pen down	Does not draw anymore.
color [e.g. color BLACK] change color of pen.	Minimum of 10 colors must be handled
width [e.g. WIDTH 5] change width (pixel size) of pen	3 sizes
cs [clear screen]	
circle [e.g. circle 30] draw circle of given radius.	The circle must put the cursor at centre (–2), Must not hide the lines/drawing at the back. (-2)
save [e.g. save "abc.txt"] save up to last 100 commands in file.	Can be used anytime. Must use a 2d char array in program to store commands
Load [e.g. load "myfile.txt"] load commands from file and execute.	File format: one instruction per line. Load can be use any time.
Error Handling For unknown commands the system must prompt "I don't know this command". E.g. eat 90 For incomplete commands the system must prompt "Incomplete command" . E.g. fd	

All instructions must be saved in a 2D character array. When the user gives the 'save' command store all instructions from this array to file.