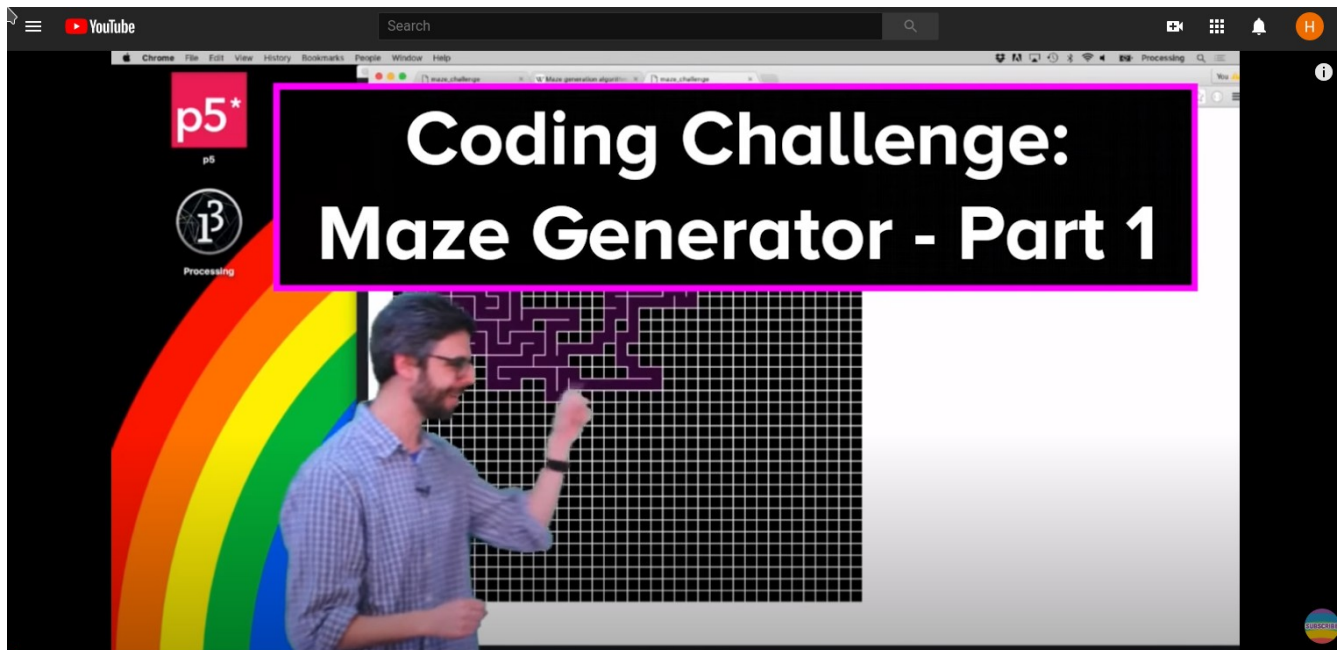


This example is a single file wxWidgets source file with the same features as shown in the video:

Watch the video then review the Comparison table between the video and the wxWidgets code:

Coding challenge #1 **Watch the video**, compare the code against the video – Part 1:
<https://thecodingtrain.com/challenges/10-dfs-maze-generator>



The assignment specific steps (all 5 of them) are listed starting on Page 3.

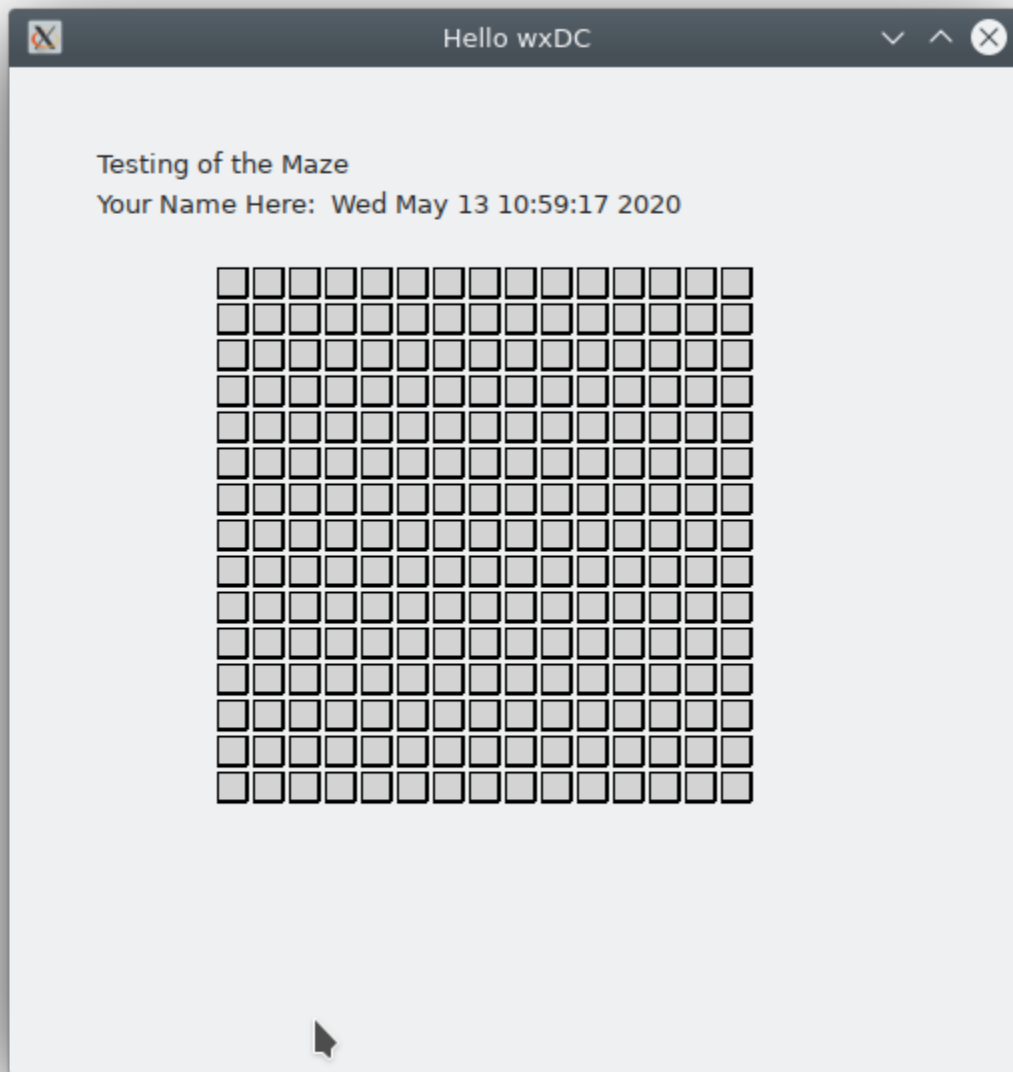


Figure 1: wxWidgets implementation of the Maze Grid

Comparison table – left side is the video at times and the right side are line numbers for the wxWidgets equivalent version.

wxWidgets is all one source file with the objects declared with prototypes and then with the implementation.

- Class Cell
 - Array of Wall Flags
 - Two constructors
- Class Maze
 - constructor with initialization
 - Maze Index – 2D to 1D mapping
 - MazeDraw – actually draws Maze on the Panel
- Class BasicDrawPane
 - This is where the Maze will be drawn

Here is the assignment- 5 parts:

- (1) Coding challenge #1 **Watch the video**, compare your code against the video:
<https://thecodingtrain.com/CodingChallenges/010.1-maze-dfs-p5>

Video: at time	wxDrawOnAPane Main.cpp Line numbers
Wikipedia Recursive Backtracker algorithm 00:49	
Design Overview: 01:31 Grid of Cells with walls	
Cell Object 02:25	class Cell: Lines 13-30
Cell location 02:34	coordinates x, y: Line 15
Cell Walls	WallFlag [4] : Line 17
Canvas and Background: 03:14	class BasicDrawPane: Lines 59-72
Cell Constructor 03:21	class Cell: Line 22
Create all Cell Objects 04:49	class Maze constructor: Lines 37-46
Maze Array of Cells 05:51	Grid of Cells MNodes Vector: Line 36
Map as single dimension Array 06:10	int MazeIndex (int X, int Y): Lines 48-51
Draw the Maze Grid 06:47	void Maze::MazeDraw(wxDC& dc): Lines 136-162
Draw a rectangle 07:40	dc.DrawRectangle(Xdot, Ydot, Cell_Width, Cell_Height): Line 149
Cell Walls 08:13	Draw Wall Lines: 152-158
Wall Array 12:33	Wall Flag Array of Cell Class: Line 17
Summary 15:07	

(5) Answer the following questions:

1. What object is drawpane placed into in the wxWidgets code?
2. What methods are part of the Cell object?
3. What methods belong to the Maze object?
4. Where is the Maze constructor in the main code?
Maze MyPath(); //<<<<<<<<<constructor
5. The Maze object is implemented using what Std Container?
6. What does DFS stand for?
7. What language is used in the Coding Challenge?
8. What type application do we produce with wxWidgets?
9. What is the name of the Maze Generator algorithm used in the video?
10. What are the column and row calling arguments for the Cell object used in the video?