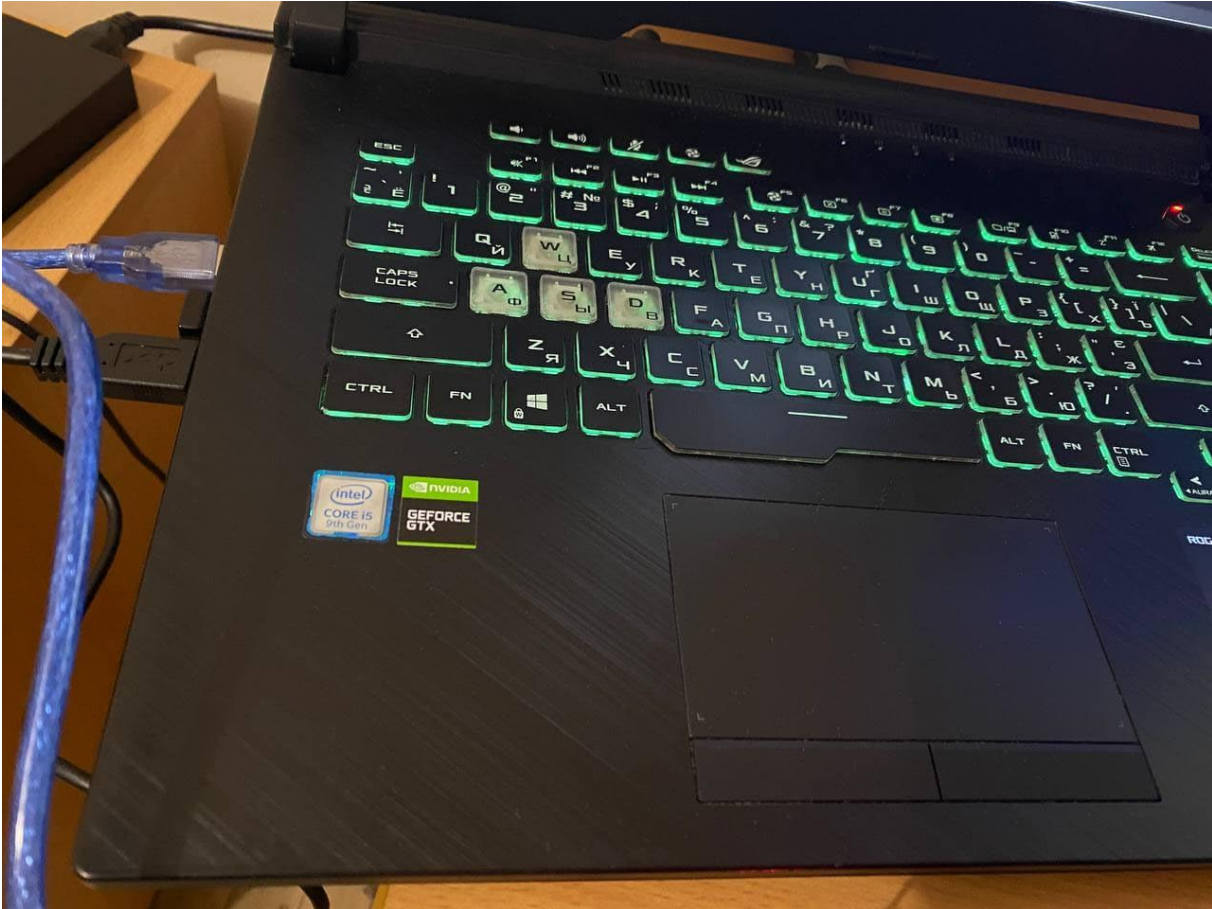


How to run project

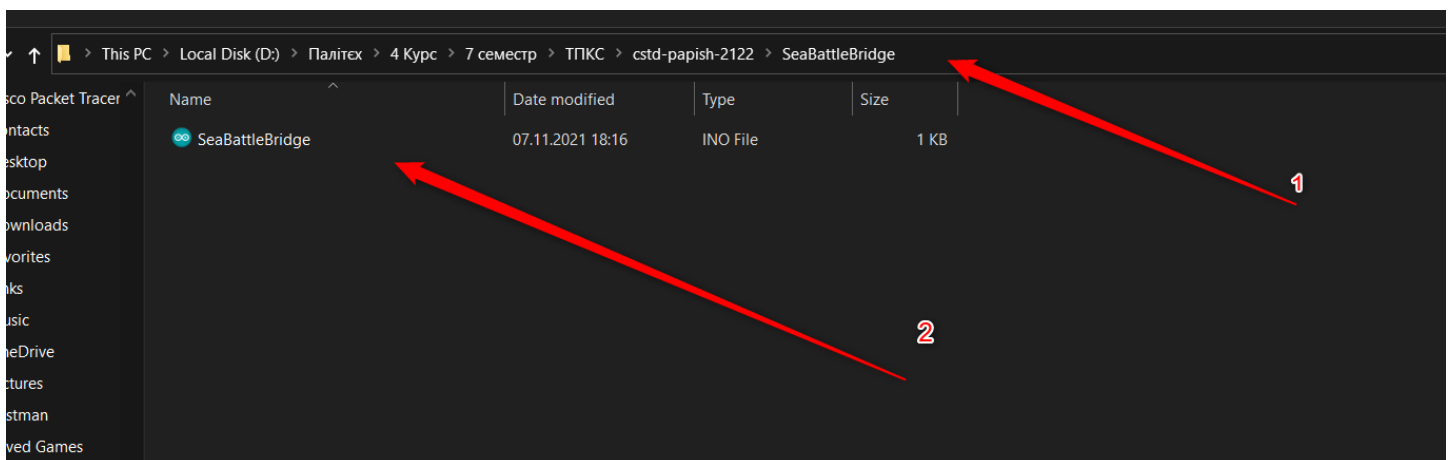
1) Connect Arduino and Psoc to PC



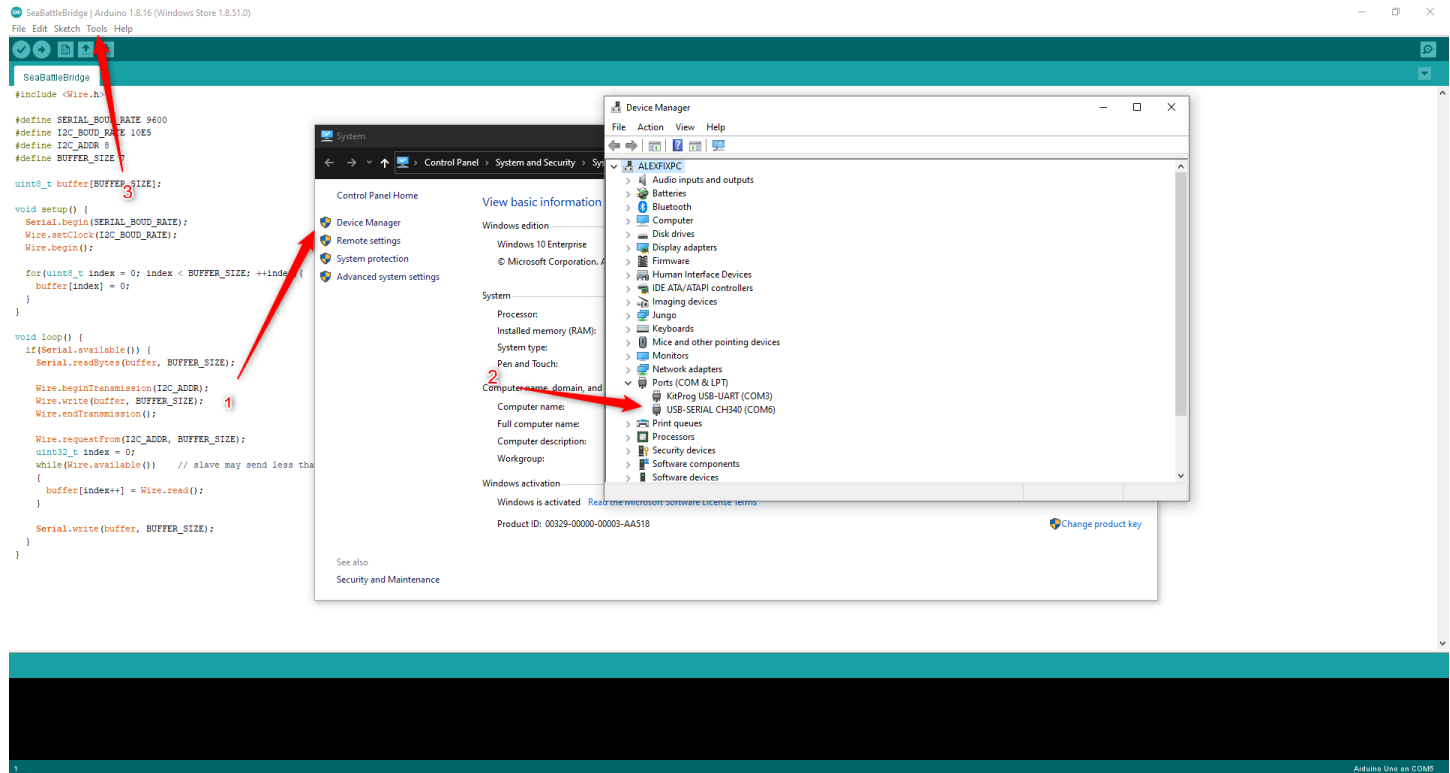
2) Connect Arduino GND to Psoc GND. Arduino SCL to Psoc P3[0]. Arduino SDL to Psoc P3[1].



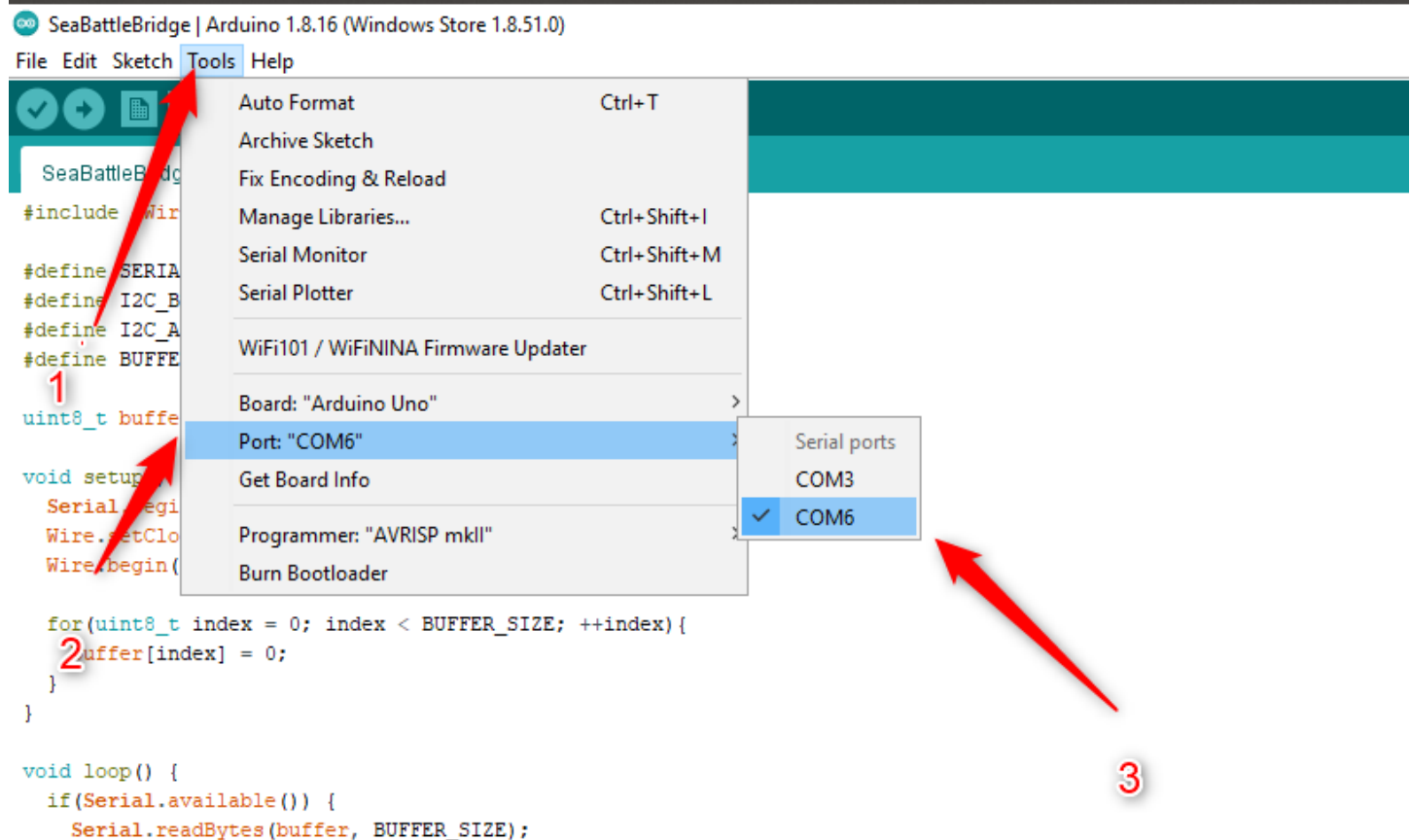
3) Open SeaBattleBridge.ino in Arduino IDE.



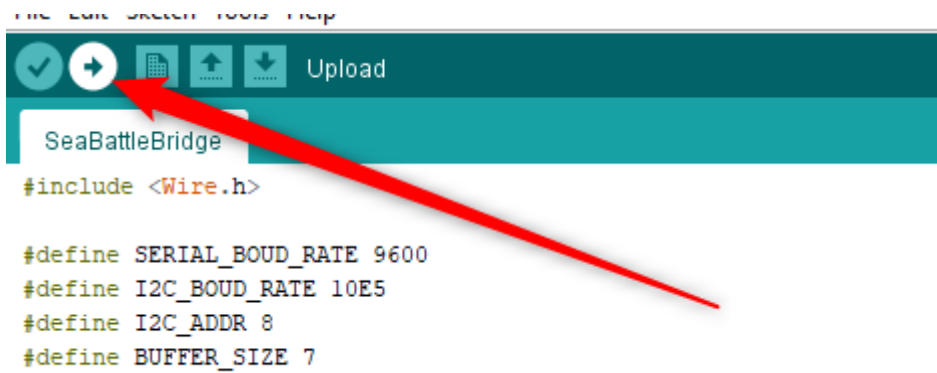
4) Open device manager and check Arduino COM port.



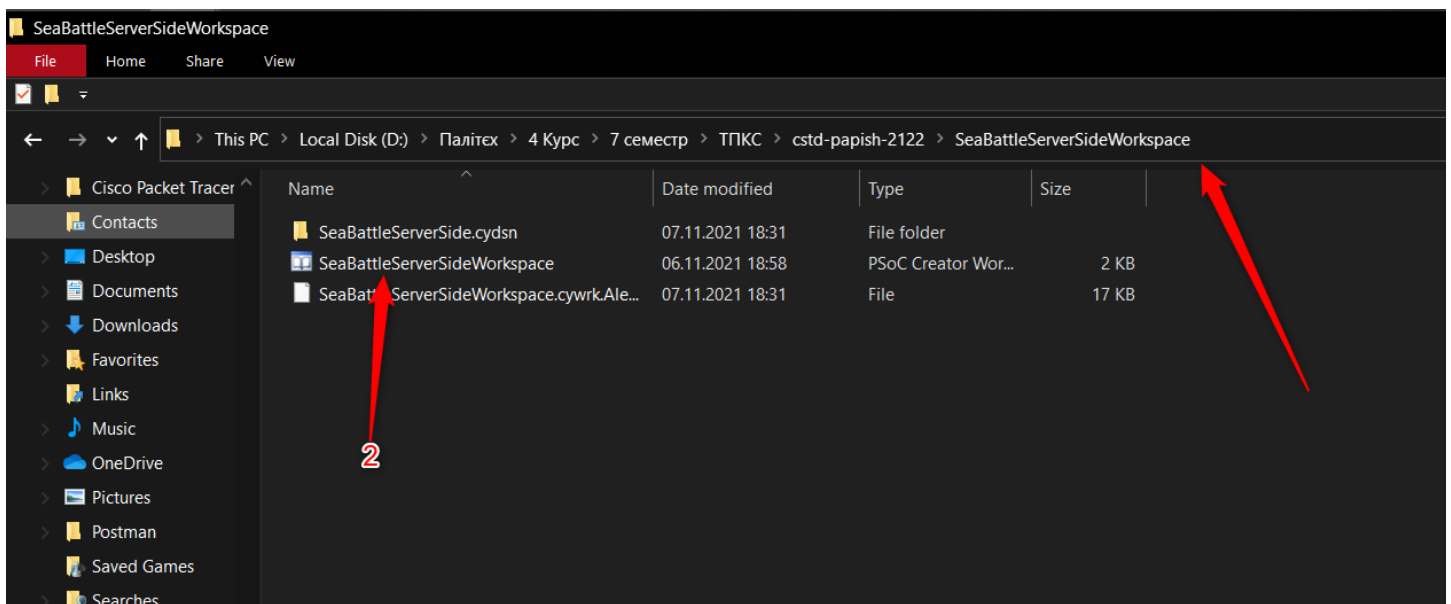
5) Change Arduino COM port in Arduino IDE.



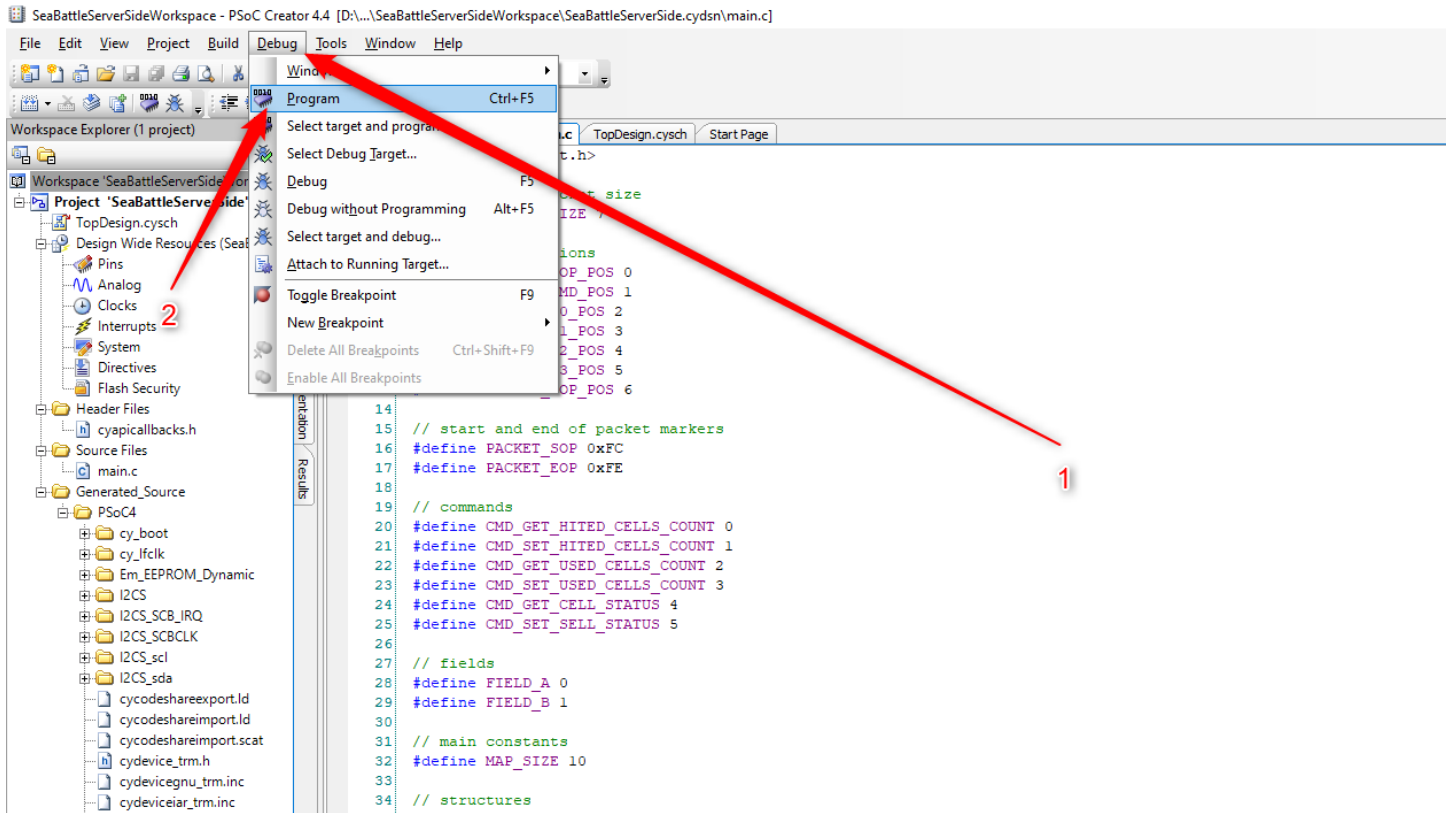
6) Upload script to Arduino board



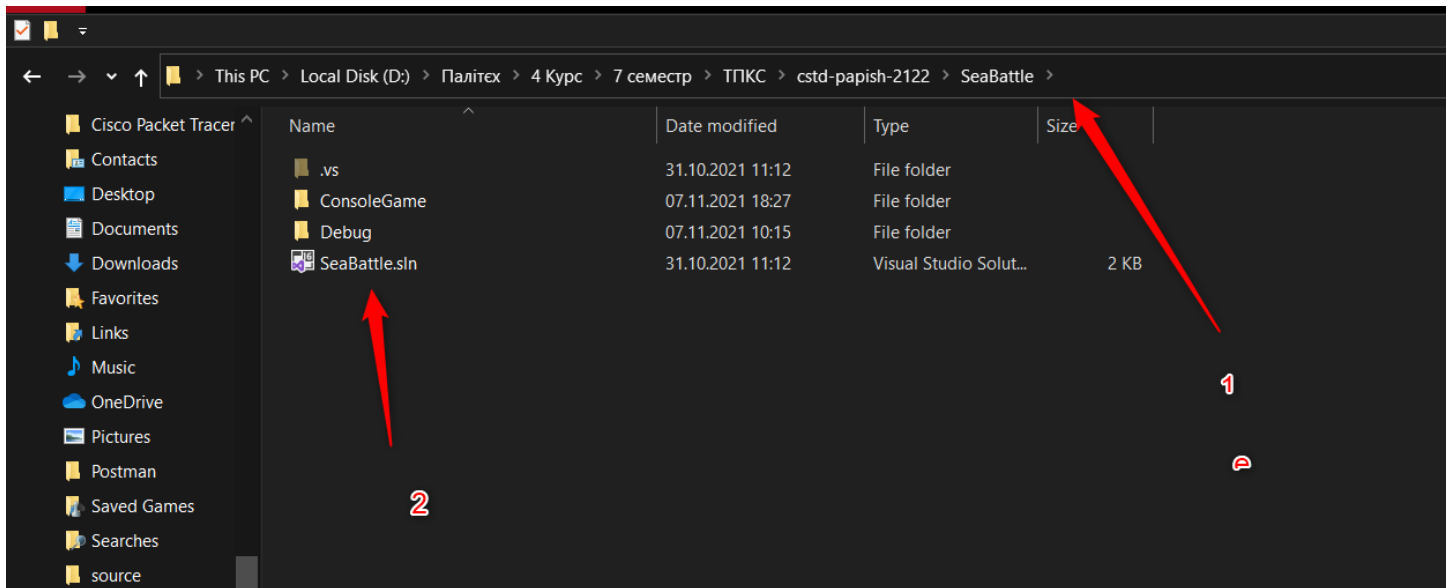
7) Open SeaBattleServerSideWorkspace.cywrk in Psoc Creator



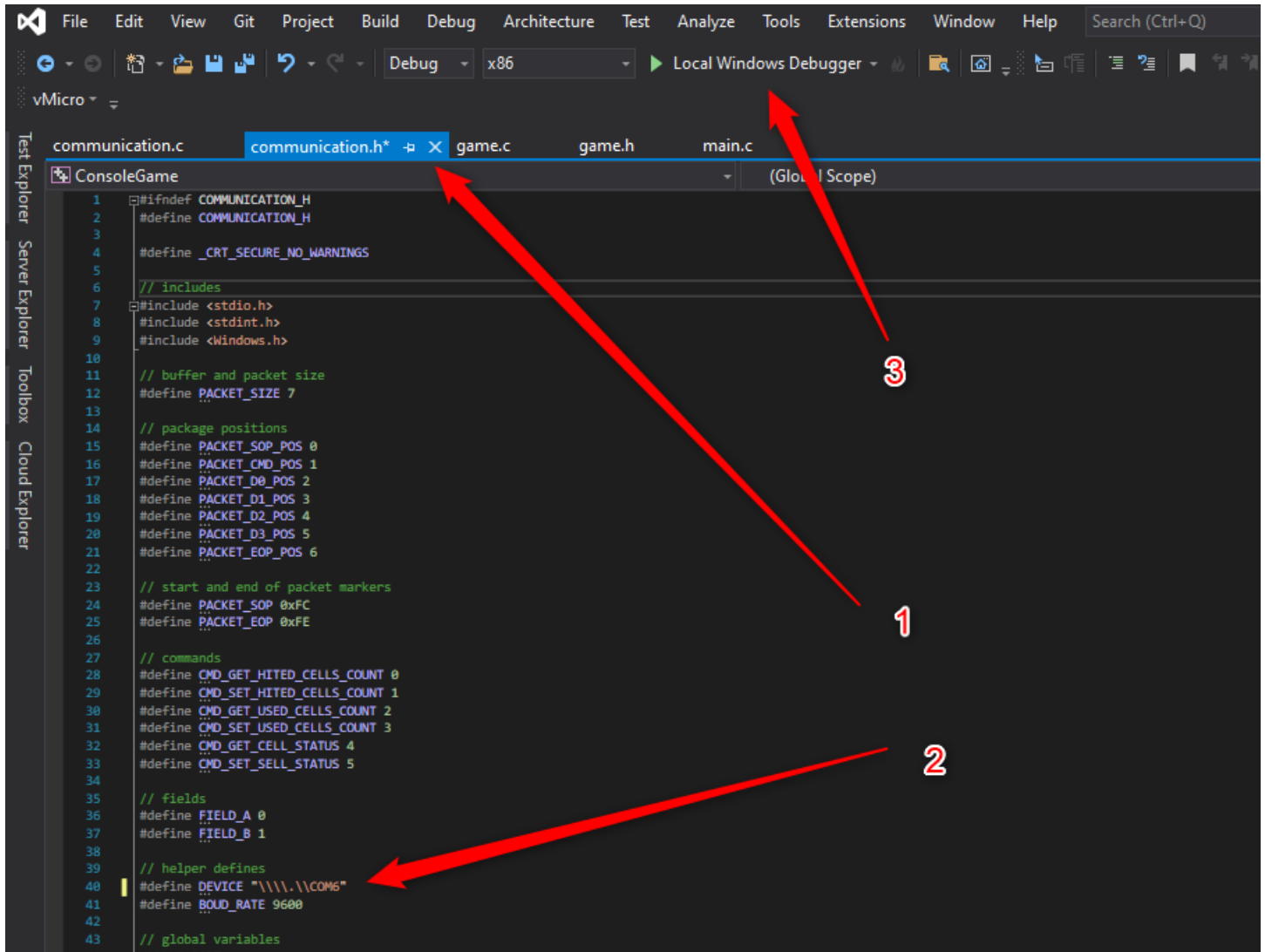
8) Programme the Psoc board.



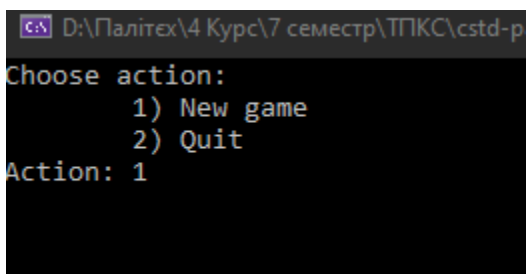
9) Open SeaBattle.sln in VisualStudio



10) Change Arduino COM port setting and run the project.



11) Start new game



12) Select Men vs Men mode

```
C:\> D:\Папітєх\4 Курс\7 семєстр\ТПКС\cstd-papish-
Choose action:
    1) Men vs Men
    2) Men vs AI
    3) AI vs AI
    4) Quit
Action: 1
```

13) Then fill battle field a, b or load saved game and start game.

```
C:\> D:\Папітєх\4 Курс\7 семєстр\ТПКС\cstd-papish-2122\SeaBat
Choose action:
    1) Fill battle field A
    2) Fill battle field B
    3) Load
    4) Start game
    5) Quit
Action: _
```

How to build and run project with MinGW

- 1) Setup MinGW: <https://www.youtube.com/watch?v=6rb7rKi4U-I>
- 2) Open cmd and navigate to directory with ui project.
- 3) Run makeit.bat file in cmd

```
Microsoft Windows [Version 10.0.19042.1348]

Alex Fix@ALEXFIXPC C:\Users\Alex Fix
$ D:

Alex Fix@ALEXFIXPC D:\
$ cd D:\Палітэх\4 Курс\7 семестр\ТПКК\cstd-papish-2122\SeaBattle\ConsoleGame

Alex Fix@ALEXFIXPC D:\Палітэх\4 Курс\7 семестр\ТПКК\cstd-papish-2122\SeaBattle\ConsoleGame
$ makeit.bat

Alex Fix@ALEXFIXPC D:\Палітэх\4 Курс\7 семестр\ТПКК\cstd-papish-2122\SeaBattle\ConsoleGame
$ gcc -c main.c game.c communication.c

Alex Fix@ALEXFIXPC D:\Палітэх\4 Курс\7 семестр\ТПКК\cstd-papish-2122\SeaBattle\ConsoleGame
$ gcc -o main main.o game.o communication.o

Alex Fix@ALEXFIXPC D:\Палітэх\4 Курс\7 семестр\ТПКК\cstd-papish-2122\SeaBattle\ConsoleGame
$ gcc -c game.c communication.c unit_tests.c

Alex Fix@ALEXFIXPC D:\Палітэх\4 Курс\7 семестр\ТПКК\cstd-papish-2122\SeaBattle\ConsoleGame
$ gcc -o unit_tests game.o communication.o unit_tests.o

Alex Fix@ALEXFIXPC D:\Палітэх\4 Курс\7 семестр\ТПКК\cstd-papish-2122\SeaBattle\ConsoleGame
$ gcc -c communication.c integration_tests.c

Alex Fix@ALEXFIXPC D:\Палітэх\4 Курс\7 семестр\ТПКК\cstd-papish-2122\SeaBattle\ConsoleGame
$ gcc -o integration_tests communication.o integration_tests.o

Alex Fix@ALEXFIXPC D:\Палітэх\4 Курс\7 семестр\ТПКК\cstd-papish-2122\SeaBattle\ConsoleGame
$ IF EXIST "*.o" DEL "*.o" /s
Deleted file - D:\Палітэх\4 Курс\7 семестр\ТПКК\cstd-papish-2122\SeaBattle\ConsoleGame\communication.o
Deleted file - D:\Палітэх\4 Курс\7 семестр\ТПКК\cstd-papish-2122\SeaBattle\ConsoleGame\game.o
Deleted file - D:\Палітэх\4 Курс\7 семестр\ТПКК\cstd-papish-2122\SeaBattle\ConsoleGame\integration_tests.o
Deleted file - D:\Палітэх\4 Курс\7 семестр\ТПКК\cstd-papish-2122\SeaBattle\ConsoleGame\main.o
Deleted file - D:\Палітэх\4 Курс\7 семестр\ТПКК\cstd-papish-2122\SeaBattle\ConsoleGame\unit_tests.o

Alex Fix@ALEXFIXPC D:\Палітэх\4 Курс\7 семестр\ТПКК\cstd-papish-2122\SeaBattle\ConsoleGame
$ |
```

How to run tests

- 1) Open cmd and navigate to directory with UI project
- 2) You can see 3 types of tests: unit_tests.exe, integration_tests.exe, automation_tests.bat
- 3) Run tests with cmd and see result


```
Alex Fix@ALEXFIXPC D:\Палітех\4 Курс\7 семестр\ТПКК\cstd-papish-2122\SeaBattle\ConsoleGame
$ unit_tests.exe
Test reset globals when globals isnt`t empty... [ OK ]
Test reset globals when globals is empty... [ OK ]
SUCCESS: All unit tests have passed.

Alex Fix@ALEXFIXPC D:\Палітех\4 Курс\7 семестр\ТПКК\cstd-papish-2122\SeaBattle\ConsoleGame
$ integration_tests.exe
Test open port when all is ok... [ OK ]
Test set and get hited cells count when all is ok... [ OK ]
Test set and get used cells count when all is ok... [ OK ]
Test set and get cell status when all is ok... [ OK ]
SUCCESS: All unit tests have passed.


Alex Fix@ALEXFIXPC D:\Палітех\4 Курс\7 семестр\ТПКК\cstd-papish-2122\SeaBattle\ConsoleGame
$ automation_tests.bat


Alex Fix@ALEXFIXPC D:\Палітех\4 Курс\7 семестр\ТПКК\cstd-papish-2122\SeaBattle\ConsoleGame
$ unit_tests.exe
Test reset globals when globals isnt`t empty... [ OK ]
Test reset globals when globals is empty... [ OK ]
SUCCESS: All unit tests have passed.

Alex Fix@ALEXFIXPC D:\Палітех\4 Курс\7 семестр\ТПКК\cstd-papish-2122\SeaBattle\ConsoleGame
$ integration_tests.exe
Test open port when all is ok... [ OK ]
Test set and get hited cells count when all is ok... [ OK ]
Test set and get used cells count when all is ok... [ OK ]
Test set and get cell status when all is ok... [ OK ]
SUCCESS: All unit tests have passed.

Alex Fix@ALEXFIXPC D:\Палітех\4 Курс\7 семестр\ТПКК\cstd-papish-2122\SeaBattle\ConsoleGame
$ |
```

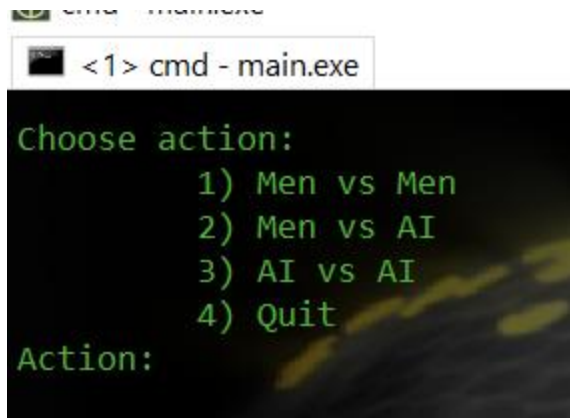
4) Manual tests

 cmd - main.exe

 <1> cmd - main.exe

```
Choose action:
    1) New game
    2) Quit
Action:
```

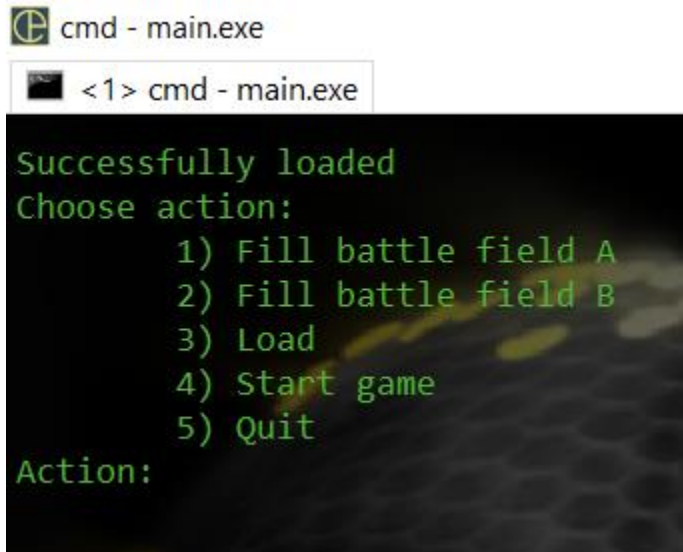
1) New game



```
<1> cmd - main.exe

Choose action:
    1) Men vs Men
    2) Men vs AI
    3) AI vs AI
    4) Quit
Action:
```

1) Men vs Men then 3) Load



```
cmd - main.exe

Successfully loaded
Choose action:
    1) Fill battle field A
    2) Fill battle field B
    3) Load
    4) Start game
    5) Quit
Action:
```

4) Start game

Player A hited 0, available 20. Player B hited 0, available 20
Choose action:

- 1) Fire (enter {row}{column} ~ 14)
- s) Save and quit
- q) Quit

Battle field A

	0	1	2	3	4	5	6	7	8	9	
0	*	*	*	*	*	*	*	*	*	*	0
1	*	*	*	*	*	*	*	*	*	*	1
2	*	*	*	*	*	*	*	*	*	*	2
3	*	*	*	*	*	*	*	*	*	*	3
4	*	*	*	*	*	*	*	*	*	*	4
5	*	*	*	*	*	*	*	*	*	*	5
6	*	*	*	*	*	*	*	*	*	*	6
7	*	*	*	*	*	*	*	*	*	*	7
8	*	*	*	*	*	*	*	*	*	*	8
9	*	*	*	*	*	*	*	*	*	*	9
	0	1	2	3	4	5	6	7	8	9	

Battle field B

	0	1	2	3	4	5	6	7	8	9	
0	*	*	*	*	*	*	*	*	*	*	0
1	*	*	*	*	*	*	*	*	*	*	1
2	*	*	*	*	*	*	*	*	*	*	2
3	*	*	*	*	*	*	*	*	*	*	3
4	*	*	*	*	*	*	*	*	*	*	4
5	*	*	*	*	*	*	*	*	*	*	5
6	*	*	*	*	*	*	*	*	*	*	6
7	*	*	*	*	*	*	*	*	*	*	7
8	*	*	*	*	*	*	*	*	*	*	8
9	*	*	*	*	*	*	*	*	*	*	9
	0	1	2	3	4	5	6	7	8	9	

Action (Player A): |

Hit 00 cell for player B

Player A hited 0, available 20. Player B hited 1, available 19
Choose action:

- 1) Fire (enter {row}{column} ~ 14)
- s) Save and quit
- q) Quit

Battle field A

	0	1	2	3	4	5	6	7	8	9	
0	*	*	*	*	*	*	*	*	*	*	0
1	*	*	*	*	*	*	*	*	*	*	1
2	*	*	*	*	*	*	*	*	*	*	2
3	*	*	*	*	*	*	*	*	*	*	3
4	*	*	*	*	*	*	*	*	*	*	4
5	*	*	*	*	*	*	*	*	*	*	5
6	*	*	*	*	*	*	*	*	*	*	6
7	*	*	*	*	*	*	*	*	*	*	7
8	*	*	*	*	*	*	*	*	*	*	8
9	*	*	*	*	*	*	*	*	*	*	9
	0	1	2	3	4	5	6	7	8	9	

Battle field B

	0	1	2	3	4	5	6	7	8	9	
0	H	*	*	*	*	*	*	*	*	*	0
1	*	*	*	*	*	*	*	*	*	*	1
2	*	*	*	*	*	*	*	*	*	*	2
3	*	*	*	*	*	*	*	*	*	*	3
4	*	*	*	*	*	*	*	*	*	*	4
5	*	*	*	*	*	*	*	*	*	*	5
6	*	*	*	*	*	*	*	*	*	*	6
7	*	*	*	*	*	*	*	*	*	*	7
8	*	*	*	*	*	*	*	*	*	*	8
9	*	*	*	*	*	*	*	*	*	*	9
	0	1	2	3	4	5	6	7	8	9	

Action (Player A): |