# INFS 1101 – Assignment 2

## General Instructions

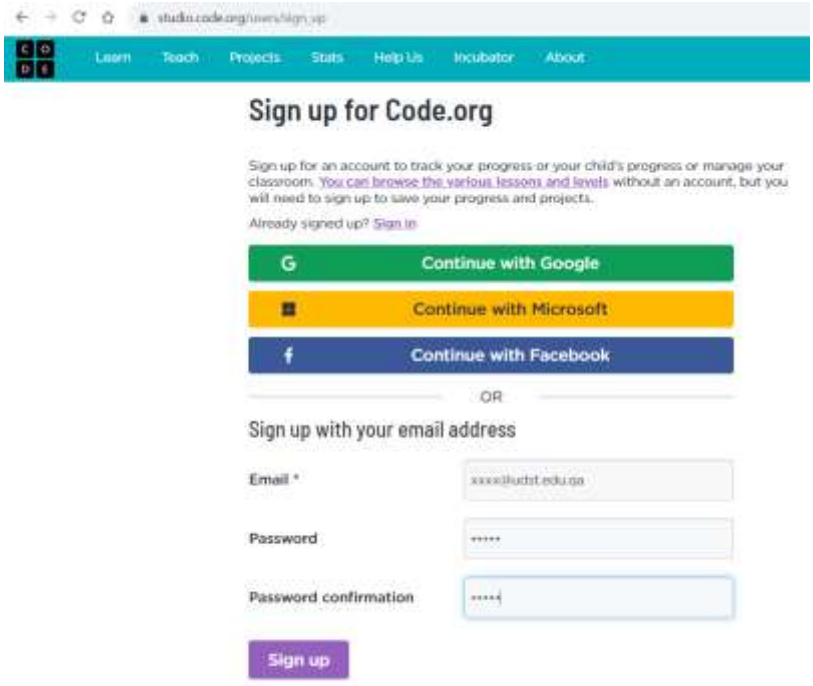
- The second Assignment consists of two parts:
    - Part I consists of developing algorithms and implementing them in code blocks on Code.org.
    - Part II is the coding part where you will develop algorithms and illustrate them in flowcharts and implement them in python programs.

- **This is an individual assignment**. Please review the Plagiarism and Academic Integrity policy presented in the first class.
- You can make multiple submissions, but only the last submission before the deadline will be graded. **Keep in mind that for each day your submission is late, a 25% deduction from your grade will be applied.**
- You should submit 2 files at the completion of the assignment, a screenshot of the first part and a zip file containing the Part 2's requirements, both files should be called assignment2_xxxxxxxx where you change xxxxxxxx to your student number.

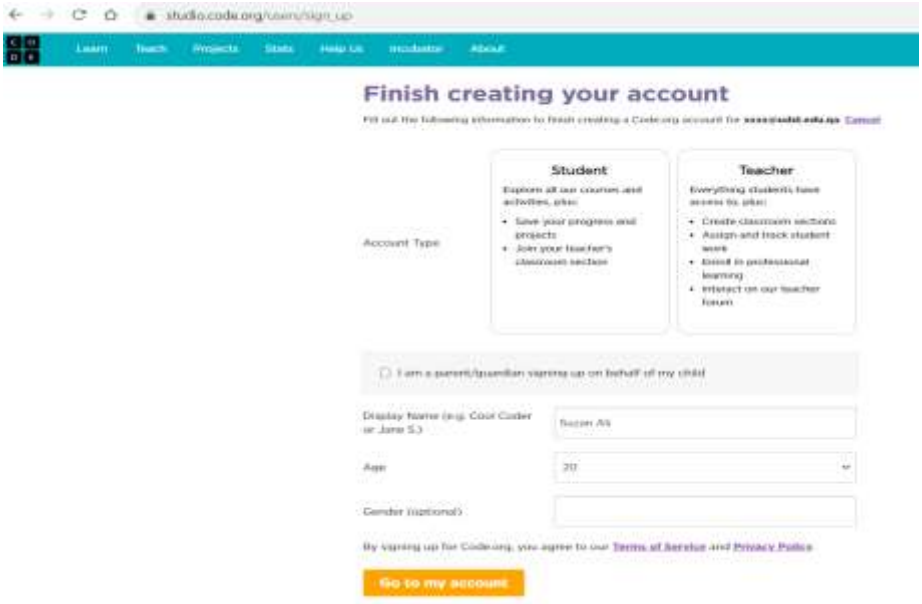
## Part I

### Instructions

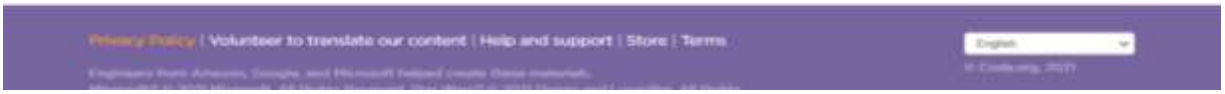
1. Create an account at Code.org



2. Choose account type: **student**. In the 'Display Name' area, type in your **full name.**




3. Scroll down to join your class section. To join section X, type in the code provided by your instructor.

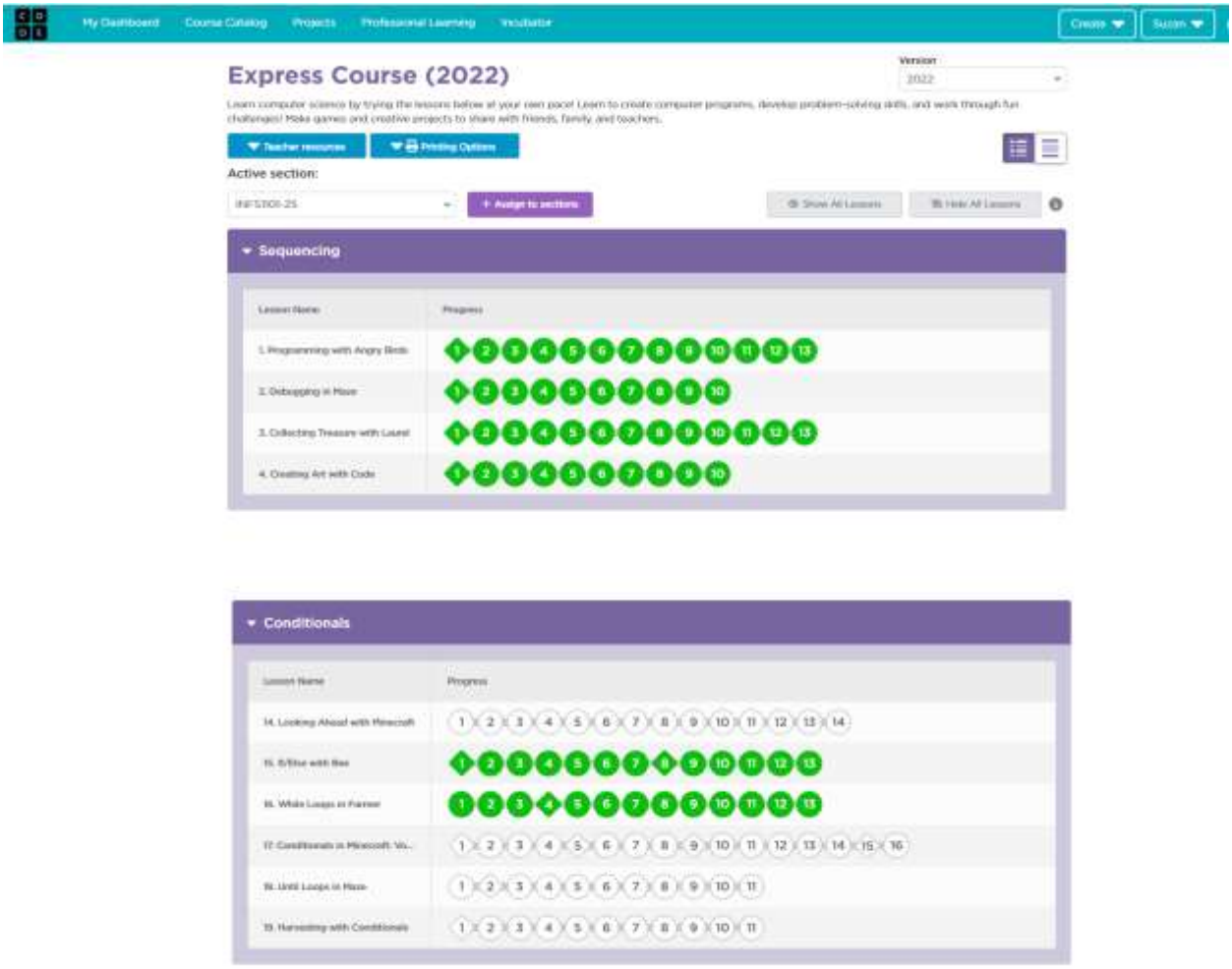
4. You should see a confirmation message similar to the one below. Click on the Express Course (2023) link to access the exercises.


5. Work through all the steps of the following block code exercises:
   1. Programming with Angry birds
   2. Debugging in Maze
   3. Collecting Treasure with Laurel
   4. Creating Art with Code
   5. If/Else with bee
   6. While Loop in Farmer

   Make sure to figure out the most efficient way to design your algorithms, i.e., using the least amount of code blocks possible.

6. Submit a screenshot of your progress on Dropbox. It should look similar to the example shown below. Please be aware that we may verify your work by inspecting your progress on the code.org console. Make sure your name is visible in the photo.

**Submission Example :**



# Part II

## Instructions

For each of the following exercises, you will need to illustrate an algorithm in a flowchart and also implement it in python, the flowchart needs to be developed in drawio https://app.diagrams.net/, export your work as png and insert it in a word file after the number of each exercise in the following format:

Exercise 1:

Flowchart 1

Exercise 2:

Flowchart 2

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You will need to develop a python code with IDLE Download Python | Python.org, develop one program per exercise, store all the programs in one zip file (in total three files) alongside the word file that contains the flowcharts and upload them on dropbox,

**Exercise 1:**

You're organizing a picnic, you need to do a rough estimation about its cost so you and your friends can adjust your budget,

a) Ask the user for the price of a sandwich and the price of a drink.

b) Ask the user how many sandwiches and drinks they plan to buy.

c) Calculate the total expense and store it in a variable called **total_expense**.

d) Print out the total expense for the picnic.

**Sample Run 1:**

```
Enter the price of a sandwich: 3.5
Enter the price of a drink: 1.8
How many sandwiches are you buying? 6
How many drinks are you buying? 5
Total expense for the picnic is 30.0Qar
```

**Sample Run 2:**

```
Enter the price of a sandwich: 4
Enter the price of a drink: 2
How many sandwiches are you buying? 4
How many drinks are you buying? 4
Total expense for the picnic is 24.0Qar
```

**Exercise 2:**

Some of your friends prefer a very specific temperature range for an outdoor picnic.

a) Ask the user for the predicted temperature in Celsius for the picnic day.

b) Convert this temperature to Fahrenheit.

c) Using the converted Fahrenheit temperature, check:

- If the temperature is between 70°F and 80°F, print "Perfect weather for an outdoor picnic!"
- Else if the temperature is above 80°F, print "It might be too hot for an outdoor picnic."
- Else, print "Might be too cold for an outdoor picnic."

**Sample Run 1:**

```
Enter the predicted temperature in Celsius: 25
The temperature in Fahrenheit is 77.0°F.
Perfect weather for an outdoor picnic!
```

**Sample Run 2:**

```
Enter the predicted temperature in Celsius: 40
The temperature in Fahrenheit is 104.0°F.
It might be too hot for an outdoor picnic.
```

**Exercise 3:**

You realize that just food and a good location might not be enough. To make the picnic more enjoyable, you have decided to organize some games. Depending on the number of participants, you will decide which game to play.

a) Ask the user for the number of participants.

b) Write a conditional statement:

- If there are 2 participants, suggest "Let's play a card game!"
- If there are 3 to 4 participants, suggest "How about a board game?"
- If there are 5 or more participants, suggest "Team sports like soccer or volleyball would be fun!"
- If there's only 1 participant, suggest "How about a nice book or some music for relaxation?"

c) Print out the game suggestion based on the number of participants.

**Sample Run 1:**

```
How many participants are there for games? 5
Team sports like soccer or volleyball would be fun!
```

**Sample Run 2:**

```
How many participants are there for games? 3
How about a board game?
```

**Exercise 4:**

You want to ensure that the names of your friends on the picnic invitations are presented neatly. But, to avoid potential errors or typos, you also want to give feedback if a name seems unusually short or long.

- Ask the user for the first name of their friend.
- Ask the user for the last name of their friend.
- Ensure the first letter of both the first name and the last name are capitalized, while the rest of the letters are in lowercase.
- Formulate a full name by combining the first and last name, separated by a space.

Verify the following conditions:

- If the combined length of the first and last name (excluding space) is less than 4, print "This name seems too short. Are you sure it's spelled correctly?"
- If the combined length of the first and last name (excluding space) is greater than 40, print "This name seems quite long. Are you sure it's spelled correctly?"
- Otherwise, print "Invitation prepared for [Full Name]!"

**Sample Run 1:**

```
Enter the first name of your friend: j
Enter the last name of your friend: D
This name seems too short. Are you sure it's spelled correctly?
```

**Sample Run 2:**

```
Enter the first name of your friend: MONICAelizabethJondoe
Enter the last name of your friend: garcIAwilliamsthethird
This name seems quite long. Are you sure it's spelled correctly?
```

**Sample Run 3:**

```
Enter the first name of your friend: MONICA
Enter the last name of your friend: garcIA
Invitation prepared for Monica Garcia!
```