

CS-101: Programming Fundamentals

Lab 01 – Flowcharts

Welcome to your first ever CS-101 Lab. The aim of this lab is to help you understand how flowcharts work and then use that knowledge to help understand programming. You will be given a few tasks and then you will need to create flowcharts that you think exhibit the best way those tasks can be done. If you do not remember the various flowchart diagrams, please see the slides from the first lecture.

Before we begin, I would like you to make groups of 2, he or she who is left out will make a group with either a TA or me 😊

Task 01

Your first task is to play a game of tic tac toe with each other. Just do one thing; as you play the game, try to think about what decisions you are making at each step. Once you complete the game, draw a flow chart to explain your approach. You have 30 minutes to do this task. Once the task is done, I will randomly pick one of your solutions and see if I can win or at least end up with a draw.

Task02

For this task you will need to guide your partner to the whiteboard, grab a marker and then come back, give the marker and sit down. You will need to approximate the number of steps that your partner will need to do to complete this task. The instructions that you can give your partner are:

Get up (Up)
Move 1 step (Move)
Rotate 90 degrees clockwise (90 CW)
Rotate 90 degrees counterclockwise (90 CCW)
Grab marker (Grab)
Give marker (Give)
Sit down (Down)

You have 15 minutes to do this task. Once the task is done, your partner will follow your commands and try to get back in one piece. His/her fate is on your hands

Task03

Go to <https://code.org/starwars> and start the Javascript based exercise. You have 1 hour to do this task.