



Conditional code (whole group)

Type: Icebreaker (10–15 mins)

Overview

Learners act out a simple computer program by following **conditional statements**. The leader calls instructions like “If you’re wearing blue, step forward; else, turn right.” Each learner evaluates the condition for themselves and performs the action. Together, the group becomes a line of “executing code.”

This activity shows how computers execute conditionals step by step, with different outcomes depending on whether the condition is true or false.

Key concepts

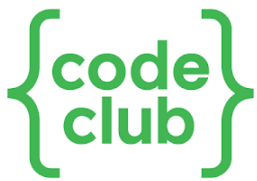
- **Conditionals:** “If... then... else...” rules allow programs to make decisions
- **Execution:** Every learner runs the same instruction, but outcomes differ based on their own data
- **Step-by-step:** Instructions run one after another, not all at once

Materials

- N/A
- *Optional:* Pre-written conditional statements (attached)

Roles

- **Leader:** Calls out conditional instructions one at a time
- **Learners:** Evaluate each instruction for themselves and act it out
- **Observers (optional):** Check whether everyone followed the condition correctly



How to play

1. Learners stand scattered in a clear space, facing the leader
2. The leader calls a conditional statement, e.g.:
 - “If you’re wearing blue, step forward; else, turn right”
3. Each learner checks the condition and acts accordingly
 - If the condition is **true**, perform the first action
 - If the condition is **false**, perform the “else” action
4. The leader calls a new conditional. The group continues moving step by step, forming a kind of “executing program”
5. Run through several conditionals until learners see how different outcomes emerge from the same set of rules

Leader tips

- Start with simple, obvious conditions: clothes colours, glasses vs no glasses
- Progress to trickier or funny ones: “If you’re taller than the leader... else...”
 - Make sure everyone acts at the same time — this mirrors computers running in lockstep
- Add an **End Program** instruction to finish
- **Debug mode:** If someone does the wrong action, pause the group and “debug” together
 - This shows how errors are found and fixed step by step

Core lesson

“Programs don’t run all at once — they run step by step. Each conditional checks a rule: if it’s true, do one thing; if not, do something else. Everyone runs the same instruction, but the outcome depends on their own data.”



Extension activity: Program the path

Split the group into 2 “robots” (2 volunteers). Mark 2 different target spots in the room (e.g. Goal A and Goal B).

Challenge the rest of the group to **write a program of If/Else statements** that will guide both robots to their specific goals step by step.

How it works:

1. The group agrees on a sequence of conditionals (e.g. “If you’re Robot A, step forward; else, turn right.”)
2. The leader calls the instructions one by one
3. Both robots evaluate each step and move accordingly
4. The aim is to get Robot A to Goal A and Robot B to Goal B using the same set of instructions

Extension activity: Competitive mode

Turn ‘Conditional code’ into an elimination game.

How it works:

1. Everyone plays as normal, following the leader’s If/Else instructions
2. If a learner does the **wrong action** (e.g. steps when they should turn, or claps when they should crouch), they are **out** and must sit down or become an observer
3. The game continues until only 1 learner is left. That person is the “last program running” — the winner

Example conditionals

- If you’re wearing shoes with laces, step forward; else, turn left
- If you’re wearing something blue, clap; else, spin once
- If you’re wearing long sleeves, step right; else, crouch
- If you have glasses, take 1 step back; else, wave
- If you’re wearing socks, jump once; else, nod your head
- If your hair touches your shoulders, turn left; else, turn right
- If you’re taller than the leader, step forward; else, clap your hands
- If your hair is shorter than your ears, step forward; else, turn around
- If you’ve been swimming in the last week, clap; else, crouch
- If your name has more than five letters, step forward; else, step back
- If your birthday month is *before* July, turn left; else, turn right