

# Algorithmic Thinking for Migrants Teachers Education

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## Handout #5: Abstraction

### EXERCISE #1

Mark the following statements as true or false:

- A. An abstraction leaks when it takes details into account unnecessarily.
- B. An abstraction must be instantiated before it can be executed.
- C. A dynamic model shows the changes in state of something over time.
- D. A directed graph is a dynamic model.
- E. Accuracy describes closeness to the true value; precision describes the level of refinement in a measurement.

### EXERCISE #2

Order the following into layers of abstraction, starting with the most general and ending with the most specific.

- A. penguin;
- B. bird;
- C. Tommy the Penguin;
- D. animal;
- E. Emperor penguin.



## EXERCISE #3

For renting out a car, which of the following is it necessary for a rental company to know about? For each one, explain your answer:

- A. the car's current mileage;
- B. the customer's height;
- C. number of wheels on the car;
- D. the car's current fuel level;
- E. ID number of the customer's motorcycle licence.