Methodology for introducing robotics in Early Childhood Education

General information

1. Enter your CODE (all in lowercase and without spaces) like this: favorite color + name of one of your parents + favorite number + your month of birth Example: if your favorite color is red, your mother is called Pink, your favorite number is 7 and you were born in April, your code will be: redpink7April.

2. Which campuses do you belong to?

3. Gender

4. Age

5. Have you had any contact with robotics in Early Childhood Education before arriving at the subject for the first time?
   - Yes, for 1-2 months of training
   - Yes, for 3-4 months of training
   - Yes, as work experience for 1-6 months
   - Yes, as work experience more than 6 months
   - Other
   - No, none

Examples

6. EXAMPLE I - Which can you eat?

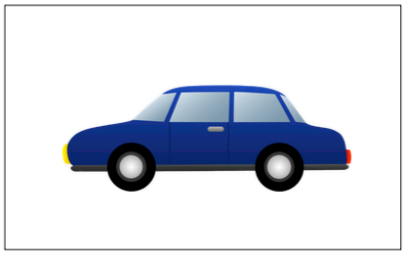
a) Correct

b)

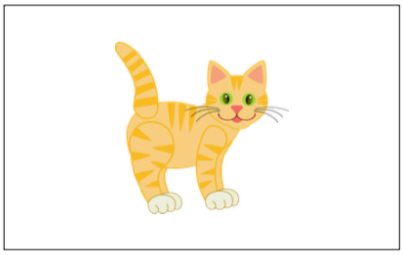
c)

7. EXAMPLE II - What is an animal? *

a)



b)

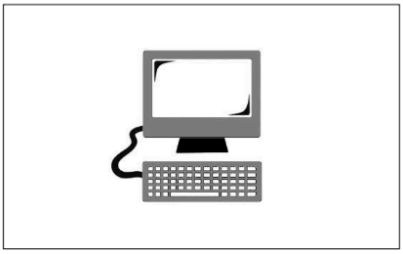


c) Correct

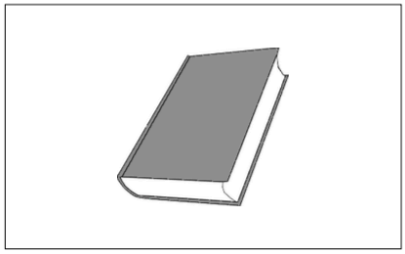
Early Childhood Computational Thinking Test

Questions under the category "Hardware / Software"

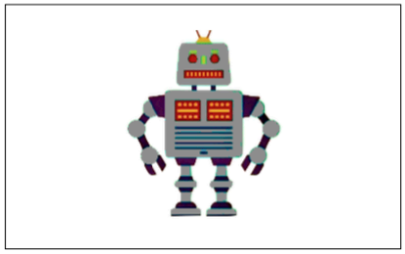
8. Which CANNOT be programmed?



a)



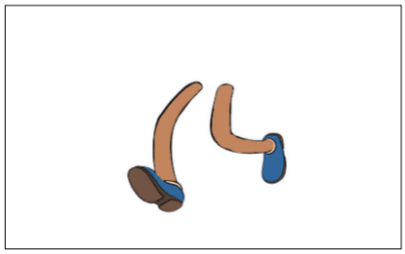
b) Correct



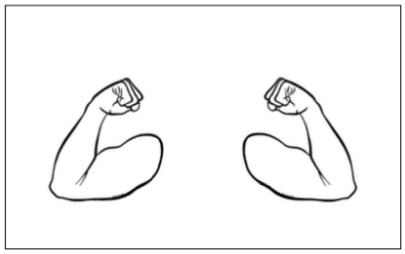
c)

9. Which one works more like a computer?

a) Correct



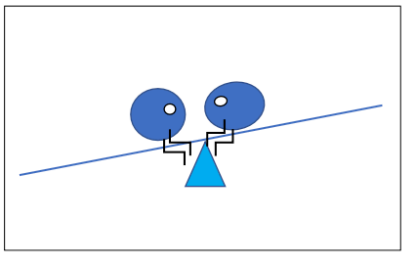
b)



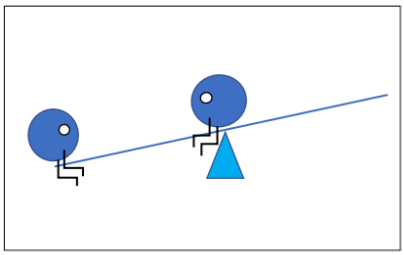
c)

Questions under the category “Debugging”

10. The seesaw doesn't go up and down. What can be changed to make it work?



a)



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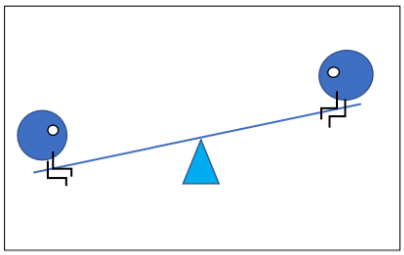
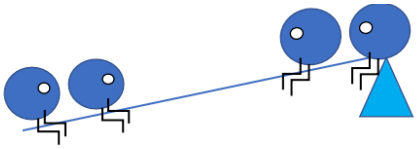
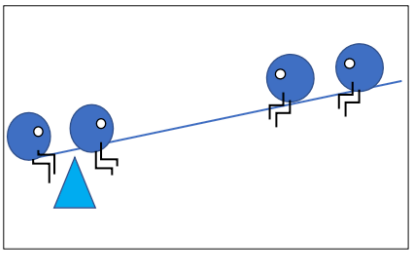


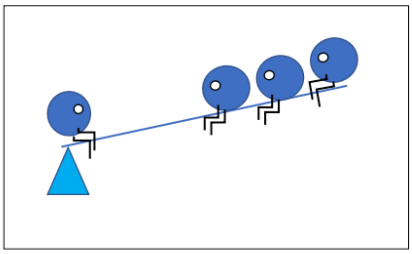
c) Correct

11. The seesaw doesn't go up and down. What can be changed to make it work?





a)



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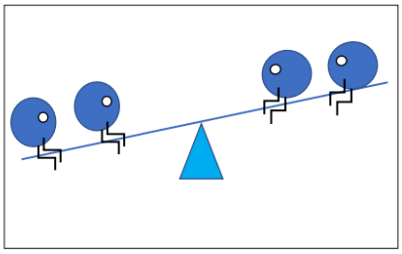
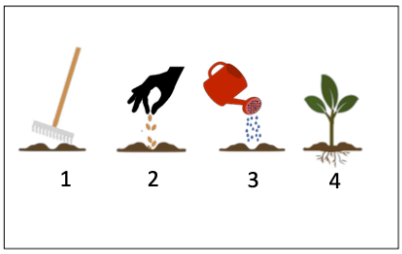


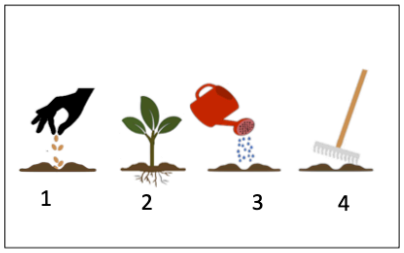
c) Correct

Questions under the category “Algorithms”

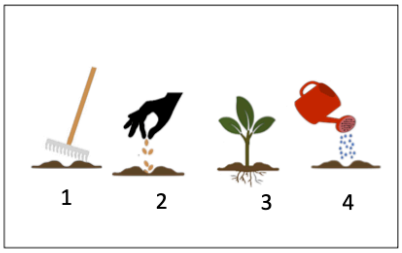
12. What is the correct order to grow a plant?



a) Correct



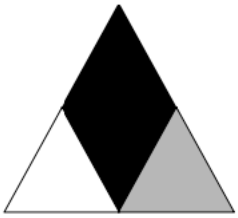
b)

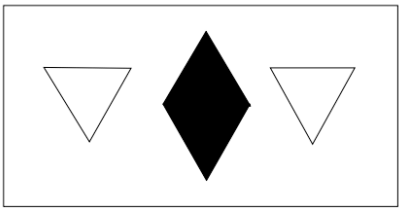


c)

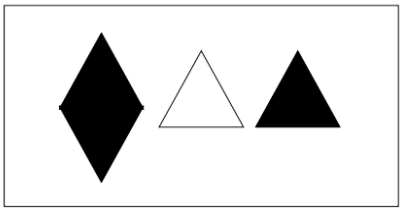
Questions under the category “Modularity”

13. What ways can you use to do this?





a)



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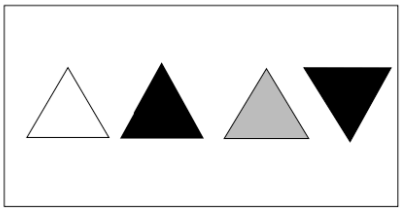
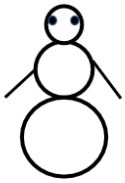
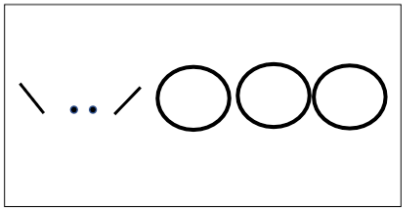


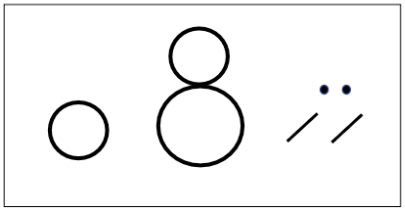
c) Correct

14. What shapes do you need to make this snowman?





a)



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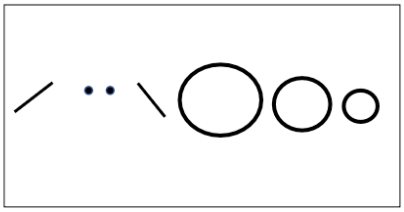
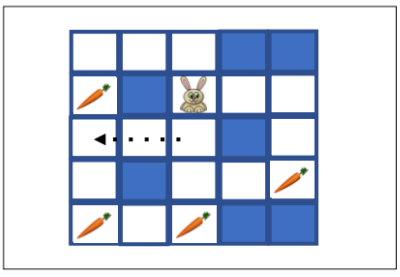


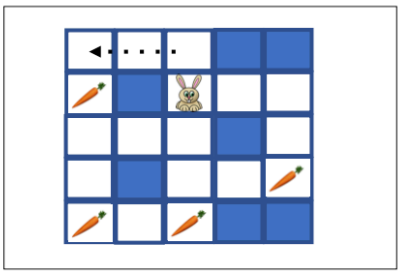
c) Correct

Questions under the category “Algorithms”

15. The bunny can only jump one white square at a time. What's the fastest way for me to get ONE carrot?



a)



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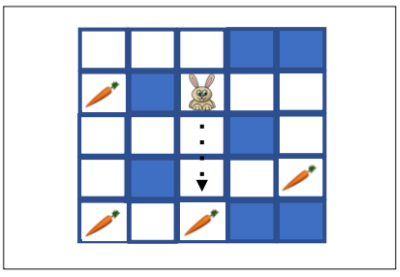
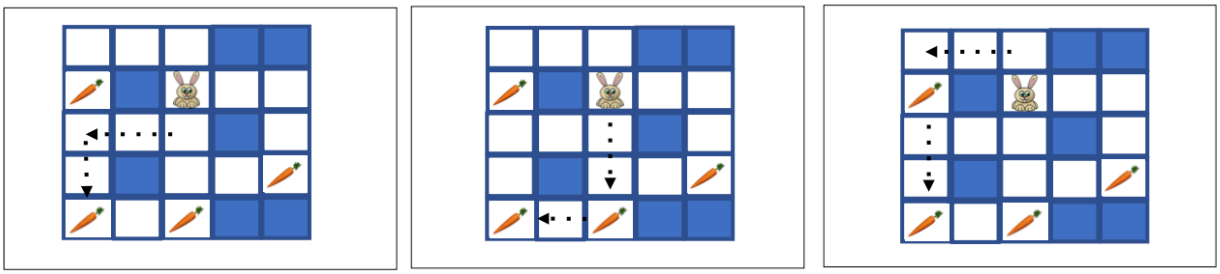


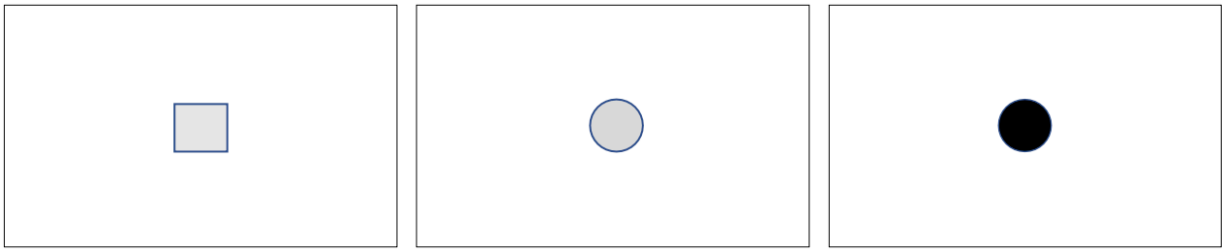
c) Correct

16. The bunny can only jump one white square at a time. What's the fastest way for me to get TWO carrots?



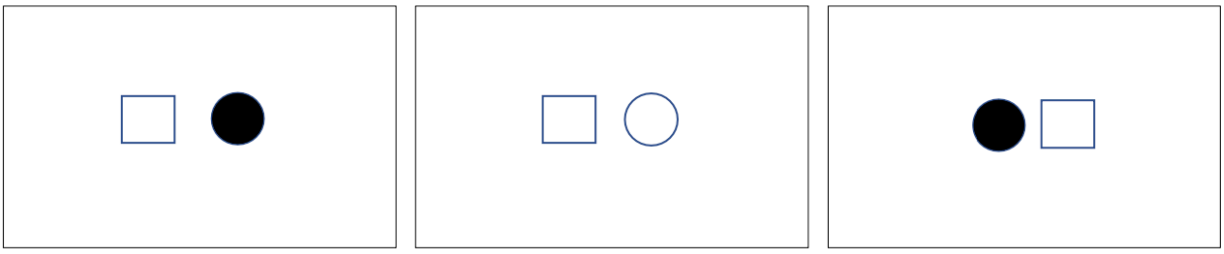
a) b) Correct c)

17. What comes next?



a) b) Correct c)

18. What comes next?

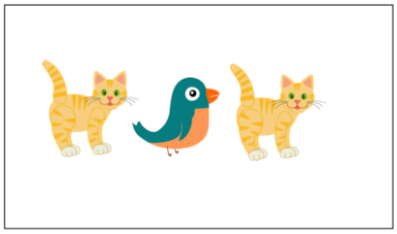


a) Correct b) c)

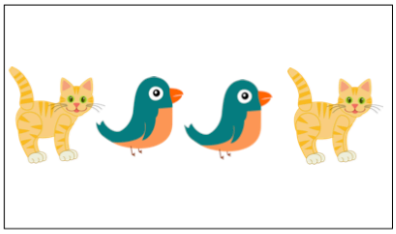
Questions under the category "Representation"

19. If a triangle makes a cat and a circle makes two birds,

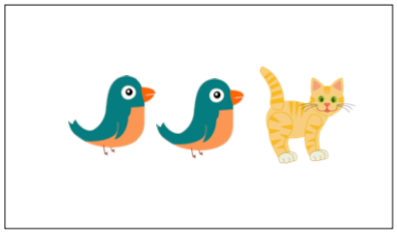
What will the next three figures do?



a)



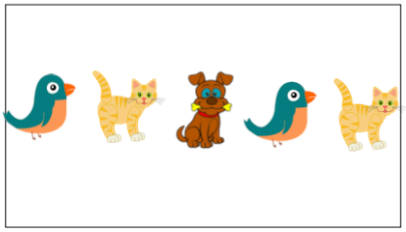
b) Correct



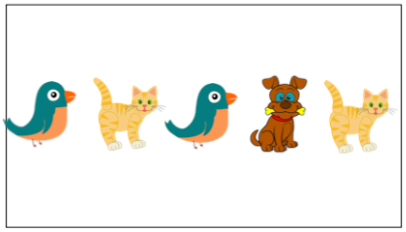
c)

20. A circle makes a bird and a cat. A square makes a dog and a bird.

So, what animals are in the figure below?



a)



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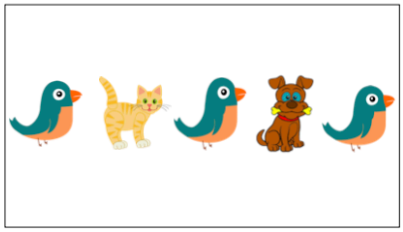
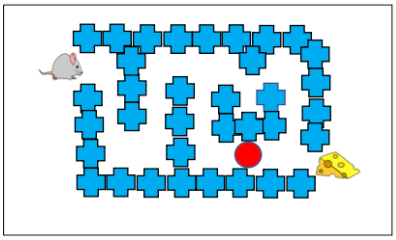


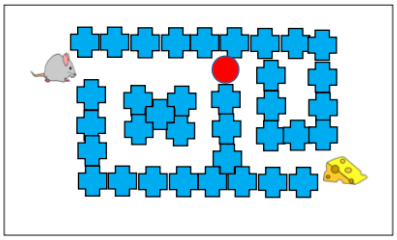
c) Correct

Questions under the category “Control Structure”

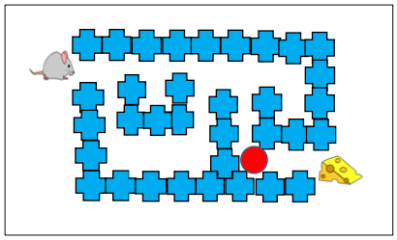
21. The mice cannot pass through walls  or red lights  . Which of the mice will be able to reach the cheese?



a) Correct

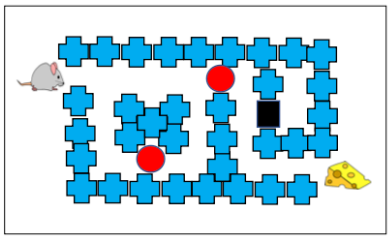


b)

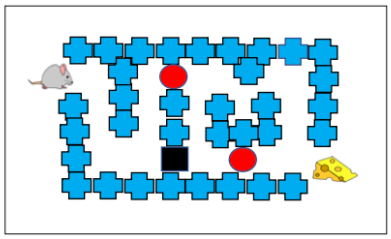


c)

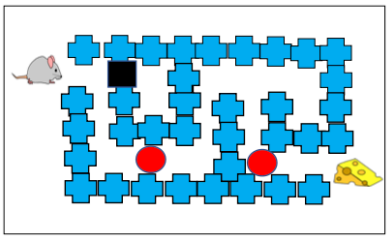
22. Mice can't pass through walls  or red lights  , but they can pass through tunnels. Which of the mice will be able to reach the cheese?



a)



b) Correct



c)

Personal assessment of the proposed methodology

23. Rate from 1 to 5 the degree of agreement with the following statements, with 1 being "Not at all agree" and 5 "Totally agree".

Questions under the category “Perceived Usefulness”

- The methodology used in class has allowed me to complete the knowledge of how to introduce robotics in Early Childhood Education more quickly.
- The methodology used in class has allowed me to improve the quality of the introduction of robotics in Early Childhood Education.
- The methodology used in class has allowed me to improve my productivity in knowing how to introduce robotics in Early Childhood Education.
- The methodology used in class has allowed me to better understand what it means to introduce robotics in Early Childhood Education.
- The methodology used in class seems reliable and makes sense.
- The methodology used in class is easy to understand.
- I found the methodology used in class satisfactory.
- The advantages of using the methodology used in class to introduce robotics in Early Childhood Education are greater than the disadvantages.

Questions under the category "Social Norm"

- My teacher thinks that we should use the methodology used in class to introduce robotics in Early Childhood Education.
- My classmates think that we should use the methodology used in class to introduce robotics in Early Childhood Education.
- Using the methodology used in class to introduce robotics in Early Childhood Education in this subject is generally well regarded.

Questions under the category "Behavour Intention"

- I intend to continue using the methodology used in class to introduce robotics in Early Childhood Education.
- Assuming that the teacher gives us access and instructions on how to use the methodology used in class, I intend to use it as another tool to introduce robotics in Early Childhood Education.

Questions under the category "Attitude Towards Using"

- I think that the use of the methodology used in class to introduce robotics in Early Childhood Education is positive.
- The methodology used in class to introduce robotics in Early Childhood Education is a good decision.
- Using the methodology used in class to introduce robotics in Early Childhood Education has been entertaining.
- I think that using the methodology used in class to introduce robotics in Early Childhood Education explains programming concepts better than I do.

Questions under the category "Actual Use"

- In your day-to-day life, you have used the methodology used in class to understand how the basic concepts of programming work.
- Have I used the methodology proposed in class for your weekly study assignments?

Personal assessment of knowledge about robots

24. Rate your knowledge to bring the Cubetto Robot to an Early Childhood Education classroom from 1 to 10, with 1 being “very poorly qualified” and 10 being “fully qualified”.
25. Rate your knowledge to bring the Matatalab robot to an Early Childhood Education classroom from 1 to 10, with 1 being “very poorly qualified” and 10 being “fully qualified”.
26. Rate your knowledge to bring the Microbit to the Early Childhood Education Classroom from 1 to 10, with 1 being “very poorly qualified” and 10 being “fully qualified”.
27. Grade your knowledge to bring the Makey Makey to an Early Childhood Education classroom from 1 to 10, with 1 being “very poorly qualified” and 10 being “fully qualified”.
28. Grade your knowledge to take to an Early Childhood Education Scratch Jr. classroom from 1 to 10, with 1 being “very poorly qualified” and 10 being “fully qualified”.