

CTT (Lua Version)

This quiz consists of 29 questions, all questions have 4 answer options from which only one is correct. You will have 25 minutes and you do not have to finish.

This is used only for our research and for your own self-assessment, and is not associated with any class or work related to your school. Just do your best!

The problems will involve working with the three characters below. In some problems, Pac-man chases the ghost, and in others the artist draws a line while he is moving.

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* Indicates required question

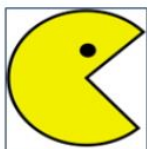
1a. Please enter your school email address (same one used for previous survey). *

Your answer

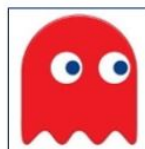
1b. What is your computer number? *

Your answer

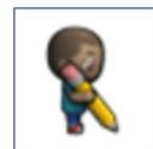
The cast



'Pac-Man'



Ghost



Artist



Example: For Pac-Man to eat the ghost, the correct answer is B: right, right, up (it works like a video game controller)

Which instructions take 'Pac-Man' to the ghost by the path marked out?

	<p>Option A</p>
	<p>Option B</p>
	<p>Option C</p>
	<p>Option D</p>

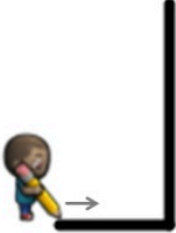
Example: this one uses Lua code instead. Please read carefully so that you understand. The answer is C.

Which instructions take 'Pac-Man' to the ghost by the path marked out?

	<p>Option A</p> <pre>pacman.forward() pacman.turnLeft() pacman.forward() pacman.forward()</pre>	<p>Option B</p> <pre>pacman.forward() pacman.turnRight() pacman.forward() pacman.forward()</pre>
	<p>Option C</p> <pre>pacman.forward() pacman.forward() pacman.turnLeft() pacman.forward()</pre>	<p>Option D</p> <pre>pacman.forward() pacman.forward() pacman.turnRight() pacman.forward()</pre>



Example: The artist draws a line to the specification. Please read carefully so that you understand. The answer is A.



<p>Which instructions should the artist follow to draw the shape? The short side measures 50 pixels and the long side measures 100 pixels.</p> 	<p>Option A</p> <pre>artist.forward(50) artist.turnLeft() artist.forward(100)</pre> <p style="text-align: right;">✔</p>	<p>Option B</p> <pre>artist.forward(50) artist.turnRight() artist.forward(100)</pre>
	<p>Option C</p> <pre>artist.forward(100) artist.turnLeft() artist.forward(50)</pre>	<p>Option D</p> <pre>artist.forward(100) artist.turnRight() artist.forward(50)</pre>


OK, now it is your turn to answer some questions!





2. Select the correct answer.


Which instructions take 'Pac-Man' to the ghost by the path marked out?

Option A


Option B


Option C


Option D


- A
- B
- C
- D



3. Select the correct answer.

Which step is missing in the instructions below to take 'Pac-Man' to the ghost by the path marked out?

Option A
➡

Option B
➡

Option C
⬆

Option D
⬇

- A
- B
- C
- D



4. Select the correct answer.

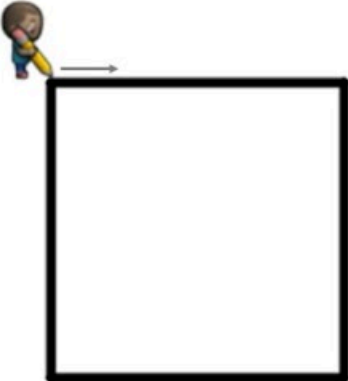
The instructions should take 'Pac-Man' to the ghost by the path marked out. In which step of the instructions is there a *mistake*?

```
pacman.forward() → Step A
pacman.turnLeft() → Step B
pacman.forward() → Step C
pacman.turnLeft() → Step D
pacman.forward()
```

- A
- B
- C
- D



5 Select the correct answer.




<p>Which instructions should the artist follow to draw the square? Each of the sides of the square measures 100 pixels.</p> 	<p>Option A</p> <pre>artist.forward(100) artist.turnRight() artist.forward(100) artist.turnLeft() artist.forward(100) artist.turnRight() artist.forward(100)</pre>	<p>Option B</p> <pre>artist.forward(25) artist.turnRight() artist.forward(25) artist.turnLeft() artist.forward(25) artist.turnRight() artist.forward(25)</pre>
	<p>Option C</p> <pre>artist.forward(50) artist.turnRight() artist.forward(50) artist.turnRight() artist.forward(50) artist.turnRight() artist.forward(50)</pre>	<p>Option D</p> <pre>artist.forward(100) artist.turnRight() artist.forward(100) artist.turnRight() artist.forward(100) artist.turnRight() artist.forward(100)</pre>


- A
- B
- C
- D





6. Select the correct answer.


Which instructions take 'Pac-Man' to the ghost by the path marked out?

		
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Option A:  x 5

Option B:  x 3

Option C:  x 4

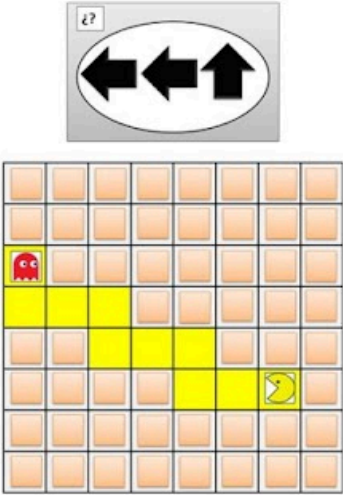
Option D:  x 2

- A
- B
- C
- D



7. Select the correct answer.

How many times must the sequence be repeated to take 'Pac-Man' to the ghost by the path marked out?



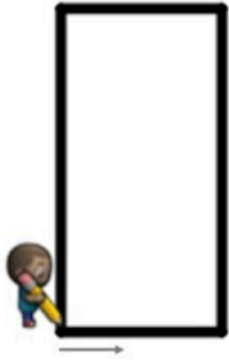
Option A × 2
Option B × 1
Option C × 4
Option D × 3

- A
- B
- C
- D



8. Select the correct answer.

The instructions should make the artist draw the following rectangle **once** (50 pixels wide and 100 pixels high). In which step of the instructions is there a **mistake**?

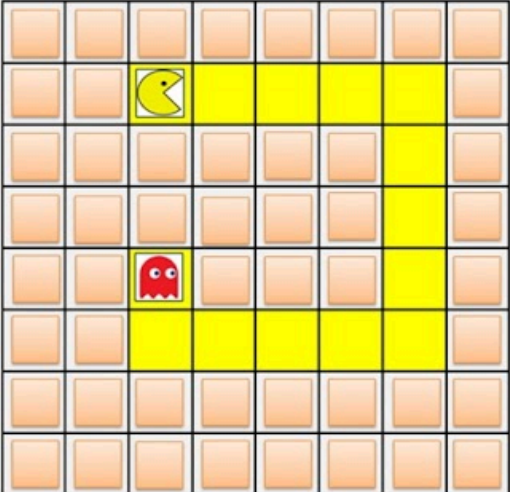


```
Step A
↑
for i = 1,4 do
  artist.forward(50)
  artist.turnLeft() → Step B
  artist.forward(100) → Step C
  artist.turnLeft() → Step D
end
```

- A
- B
- C
- D



9. Select the correct answer.

<p>Which instructions take 'Pac-Man' to the ghost by the path marked out?</p> 	<p>Option A</p> <pre>for i = 1, 4 do for j = 1, 3 do pacman.forward() end pacman.turnRight() end pacman.forward()</pre>	<p>Option B</p> <pre>for i = 1, 3 do for j = 1, 4 do pacman.forward() end pacman.turnRight() end pacman.forward()</pre>
	<p>Option C</p> <pre>for i = 1, 3 do for j = 1, 4 do pacman.forward() end pacman.turnRight() end pacman.forward()</pre>	<p>Option D</p> <pre>for i = 1, 4 do pacman.forward() end for j = 1, 3 do pacman.turnRight() end pacman.forward()</pre>

- A
- B
- C
- D



10. Select the correct answer.

Which instructions take 'Pac-Man' to the ghost by the path marked out?

Option A	Option B
Repeat until the...	Repeat until the...
Option C	Option D
Repeat until the...	Repeat until the...


- A
- B
- C
- D

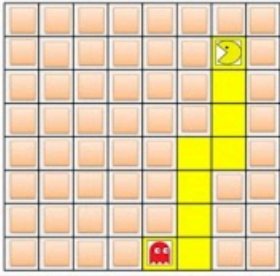


11. Select the correct answer.

Which step is missing in the instructions below to take 'Pac-Man' to the ghost by the path marked out?

```

while not  do
  pacman.turnLeft()
  pacman.forward()
  ? 
  pacman.forward()
  pacman.turnRight()
  pacman.forward()
end
    
```



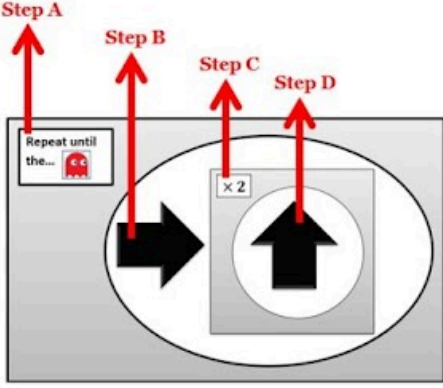
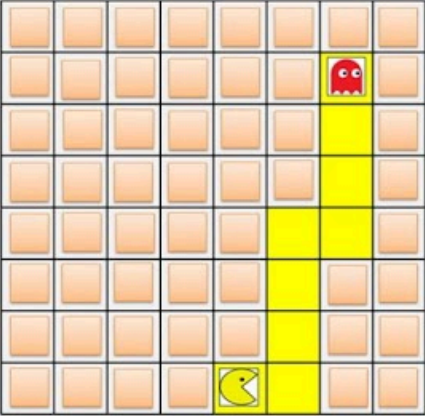
<p>Option A</p> <pre>pacman.turnLeft()</pre>	<p>Option B</p> <pre>pacman.turnRight()</pre>
<p>Option C</p> <pre>pacman.forward()</pre>	<p>Option D</p> <p><i>Not missing any step</i></p>

- A
- B
- C
- D



12. Select the correct answer.


The instructions should take 'Pac-Man' to the ghost by the path marked out. In which step of the instructions is there a *mistake*?



- A
- B
- C
- D



13. Select the correct answer.

<p>Which instructions should the artist follow to draw the ladder that reaches the flower? There are 30 pixels between each rung.</p> 	<p>Option A</p> <pre>while not artist.atFlower() do for i = 1, 4 do artist.forward(30) artist.turnRight() end artist.forward(30) end</pre>	<p>Option B</p> <pre>while not artist.atFlower() do for i = 1, 4 do artist.forward(120) artist.turnRight() end artist.forward(30) end</pre>
	<p>Option C</p> <pre>while not artist.atFlower() do for i = 1, 4 do artist.forward(30) artist.turnRight() end artist.forward(210) end</pre>	<p>Option D</p> <pre>while not artist.atFlower() do for i = 1, 7 do artist.forward(30) artist.turnRight() end artist.forward(30) end</pre>

- A
- B
- C
- D



14. Select the correct answer.

Which instructions take 'Pac-Man' to the ghost by the path marked out?

Option A: Repeat until the... (ghost icon) if on... (red square) → ↑

Option B: Repeat until the... (ghost icon) if on... (red square) → ↑ ↑

Option C: Repeat until the... (ghost icon) if on... (yellow square) → ↑

Option D: Repeat until the... (ghost icon) if on... (yellow square) → ↑ ↑

- A
- B
- C
- D



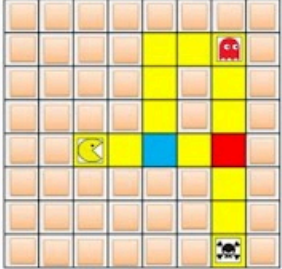
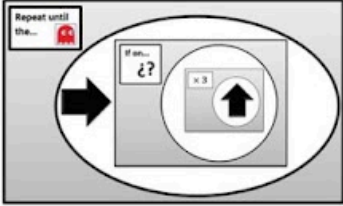
15. Select the correct answer.


<p>Which instructions take 'Pac-Man' to the ghost by the path marked out?</p>	<p>Option A</p> <pre>while not pacman.atGhost() do pacman.forward() if pacman.spaceToRight() == YELLOW then pacman.turnRight() end end</pre>	<p>Option B</p> <pre>while not pacman.atGhost() do pacman.turnRight() if pacman.spaceToRight() == YELLOW then pacman.forward() end end</pre>
	<p>Option C</p> <pre>while not pacman.atGhost() do pacman.forward() if pacman.spaceToRight() == YELLOW then pacman.turnLeft() end end</pre>	<p>Option D</p> <pre>while not pacman.atGhost() do pacman.forward() if pacman.spaceToLeft() == YELLOW then pacman.turnLeft() end end</pre>


- A
- B
- C
- D


16. Select the correct answer.

What is missing in the instructions below to take 'Pac-Man' to the ghost by the path marked out?



Option A


Option B


Option C


Option D
Both option A and option C are correct

- A
- B
- C
- D



17. Select the correct answer.

The instructions should take 'Pac-Man' to the ghost by the path marked out.
In which step of the instructions is there a **mistake**?

```

while not pacman.atGhost() do
  pacman.forward()
  if pacman.spaceToLeft() == YELLOW then
    pacman.turnLeft()
  end
  if pacman.spaceToRight() == YELLOW then
    pacman.forward()
  end
end
    
```

Step A points to `pacman.spaceToLeft() == YELLOW then`
 Step B points to `pacman.turnLeft()`
 Step C points to `pacman.spaceToRight() == YELLOW then`
 Step D points to `pacman.forward()`

- A
- B
- C
- D



18. Select the correct answer.

<p>Which instructions take 'Pac-Man' to the ghost by the path marked out?</p>	<p>Option A</p> <pre>while not pacman.atGhost() do if pacman.spaceAhead() == YELLOW then pacman.forward() else pacman.turnLeft() end end</pre>	<p>Option B</p> <pre>while not pacman.atGhost() do if pacman.spaceAhead() == YELLOW then pacman.forward() else pacman.turnRight() end end</pre>
	<p>Option C</p> <pre>while not pacman.atGhost() do if pacman.spaceToRight() == YELLOW then pacman.turnRight() else pacman.forward() end end</pre>	<p>Option D</p> <pre>while not pacman.atGhost() do if pacman.spaceToLeft() == YELLOW then pacman.turnLeft() else pacman.forward() end end</pre>

- A
- B
- C
- D



19. Select the correct answer.

<p><i>Which instructions take 'Pac-Man' to the ghost by the path marked out?</i></p>	<p>Option A</p> <pre>while not pacman.atGhost() do if pacman.spaceAhead() == YELLOW then pacman.forward() else pacman.turnLeft() end end</pre>	<p>Option B</p> <pre>while not pacman.atGhost() do if pacman.spaceAhead() == YELLOW then pacman.forward() else pacman.turnRight() end end</pre>
	<p>Option C</p> <pre>while not pacman.atGhost() do if pacman.spaceToRight() == YELLOW then pacman.turnRight() else pacman.forward() end end</pre>	<p>Option D</p> <pre>while not pacman.atGhost() do if pacman.spaceToLeft() == YELLOW then pacman.turnLeft() else pacman.forward() end end</pre>

- A
- B
- C
- D

20. Select the correct answer.

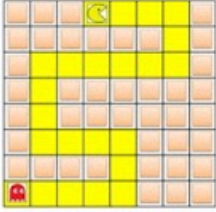
The instructions should take 'Pac-Man' to the ghost by the path marked out. In which step of the instructions is there a *mistake*?

```

while not pacman.atGhost() do
  if pacman.spaceAhead()
    == YELLOW then
    pacman.forward() → Step A
  else
    if pacman.spaceToRight()
      == YELLOW then → Step B
    pacman.turnLeft() → Step C
    else
    pacman.turnRight() → Step D
    end
  end
end
end
    
```

- A
- B
- C
- D

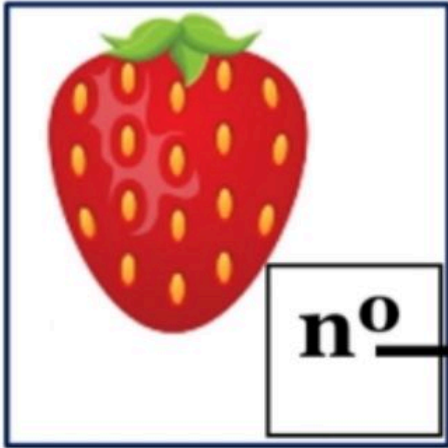
21. Select the correct answer.

<p><i>Which step is missing in the instructions below to take 'Pac-Man' to the ghost by the path marked out?</i></p> <pre> while not pacman.atGhost() do if pacman.spaceAhead() == YELLOW then pacman.forward() else if pacman.spaceToRight() == YELLOW then pacman.turnRight() else ?????????? end end end end end </pre> 	<p>Option A</p> <pre>pacman.forward()</pre>	<p>Option B</p> <pre>pacman.turnRight()</pre>
	<p>Option C</p> <pre>pacman.turnLeft()</pre>	<p>Option D</p> <p><i>Not missing any step</i></p>

- A
- B
- C
- D

In the next four questions, a strawberry appears in some squares. The number on the bottom of the image shows how many strawberries are in the square.





Number of strawberries that are in the square

22. Select the correct answer.

<p><i>Which instructions take 'Pac-Man' to the strawberries by the path marked out and tell 'Pac-Man' to eat all the strawberries shown?</i></p>	<p>Option A</p> <pre>while pacman.spaceAhead() == YELLOW do pacman.forward() end for i = 1, 3 do pacman.eatStrawberry() end</pre>	<p>Option B</p> <pre>while pacman.spaceAhead() == YELLOW do pacman.forward() end for i = 1, 4 do pacman.eatStrawberry() end</pre>
	<p>Option C</p> <pre>while pacman.spaceAhead() == YELLOW do pacman.forward() end for i = 1, 5 do pacman.eatStrawberry() end</pre>	<p>Option D</p> <pre>while pacman.spaceAhead() == YELLOW do pacman.forward() for i = 1, 3 do pacman.eatStrawberry() end end</pre>

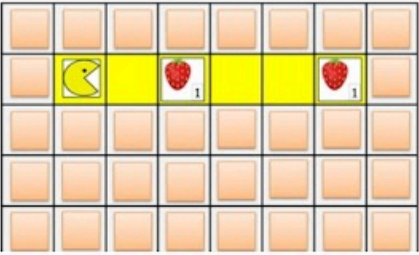
- A
- B
- C
- D

23. Select the correct answer.

<p><i>Which instructions take 'Pac-Man' to the strawberries by the path marked out and tell 'Pac-Man' to eat all the strawberries shown?</i></p>	<p>Option A</p> <pre>while pacman.spaceAhead() == YELLOW do for i = 1, 5 do pacman.forward() end for i = 1, 3 do pacman.eatStrawberry() end end</pre>	<p>Option B</p> <pre>while pacman.spaceAhead() == YELLOW do pacman.forward() for i = 1, 3 do pacman.eatStrawberry() end end</pre>
	<p>Option C</p> <pre>while pacman.spaceAhead() == YELLOW do for i = 1, 3 do pacman.forward() end for i = 1, 5 do pacman.eatStrawberry() end end</pre>	<p>Option D</p> <pre>while pacman.spaceAhead() == YELLOW do pacman.forward() end for i = 1, 3 do pacman.eatStrawberry() end</pre>

- A
- B
- C
- D

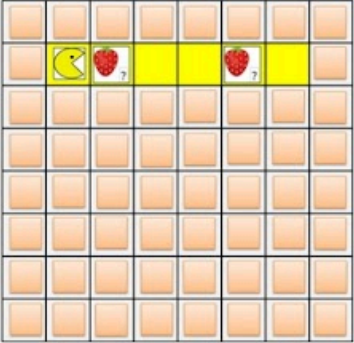
24. Select the correct answer.

<p>What is missing in the instructions below to take 'Pac-Man' to the strawberries by the path marked out and tell 'Pac-Man' to eat all the strawberries shown?</p> <pre> while pacman.spaceAhead() == YELLOW do for i = 1, ??? do pacman.forward() end if pacman.numberOfStrawberries() >= 1 then pacman.eatStrawberry() end end end </pre> 	<p>Option A <i>1 time</i></p> <hr/> <p>Option B <i>2 times</i></p> <hr/> <p>Option C <i>3 times</i></p> <hr/> <p>Option D <i>5 times</i></p>
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- A
- B
- C
- D



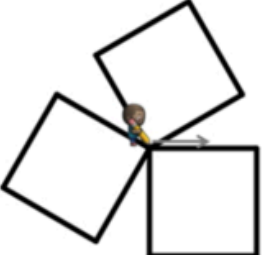
25. Select the correct answer.

<p>Which step is missing in the instructions below to take 'Pac-Man' to the strawberries by the path marked out and tell 'Pac-Man' to eat all the strawberries (unknown number)?</p> <pre>while pacman.spaceAhead() == YELLOW do pacman.forward() if pacman.numberOfStrawberries() >= 1 then while ?????????????????? do pacman.eatStrawberry() end end end</pre> 	<p>Option A</p> <pre>pacman.spaceAhead() == YELLOW</pre> <hr/> <p>Option B</p> <pre>not pacman.spaceAhead() == YELLOW</pre> <hr/> <p>Option C</p> <pre>pacman.numberOfStrawberries() > 0</pre> <hr/> <p>Option D</p> <pre>pacman.numberOfStrawberries() == 0</pre>
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- A
- B
- C
- D




26. Select the correct answer.

<p>The following set of instructions is called 'my_function', and draws one square of 100 pixels each side:</p> <pre>function my_function() for i=1, 4 do artist.forward(100) artist.turnRight(90) end end</pre> <p>Which instructions should the artist follow to draw the following design? Each side of each square measures 100 pixels.</p>	<p>Option A</p> <pre>for j= 1, 3 do my_function() end artist.turnRight(120)</pre>	<p>Option B</p> <pre>for j= 1, 3 do my_function() artist.turnRight(120) end</pre>
	<p>Option C</p> <pre>for j= 1, 4 do my_function() end artist.turnRight(90)</pre>	<p>Option D</p> <pre>for j= 1, 4 do my_function() artist.turnRight(90) end</pre>

- A
- B
- C
- D



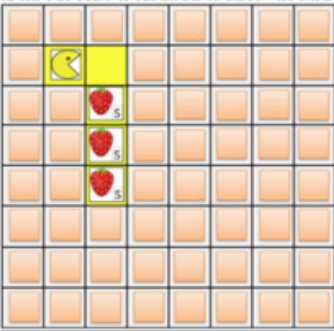
27. Select the correct answer.

<p>The following set of instructions is called 'my function', and draws one triangle of 50 pixels each side:</p> <pre>function my_function() for x=1, 3 do artist.forward(50) artist.turnLeft(120) end end</pre>	<p>Option A</p> <p>15</p>	<p>Option B</p> <p>5</p>
<p>The instructions below should make the artist draw the following design. Each side of each triangle measures 50 pixels. What is missing in the instructions?</p> <pre>for x=1, ??? do my_function() artist.forward(50) end</pre> 	<p>Option C</p> <p>4</p>	<p>Option D</p> <p>3</p>

- A
- B
- C
- D



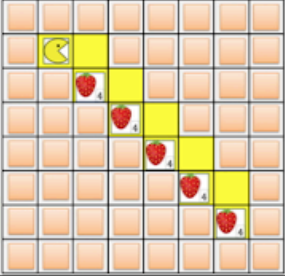
28. Select the correct answer.

<p>The following set of instructions is called 'get 5':</p> <pre>function get_5() for x=1, 5 do pacMan.eat1Strawberry() end end</pre> <p>Which instructions take 'Pac-Man' to the strawberries by the path marked out and tell 'Pac-Man' to eat all the strawberries shown?</p> 	<p>Option A</p> <pre>pacMan.forward() pacMan.turnRight() for x= 1, 3 do pacMan.forward() get_5() end</pre>	<p>Option B</p> <pre>pacMan.forward() pacMan.turnRight() for x= 1, 3 do get_5() end pacMan.forward()</pre>
	<p>Option C</p> <pre>pacMan.forward() pacMan.turnRight() for x= 1, 5 do pacMan.forward() get_5() end</pre>	<p>Option D</p> <pre>pacMan.forward() pacMan.turnRight() for x= 1, 5 do get_5() end pacMan.forward()</pre>

- A
- B
- C
- D



29. Select the correct answer.

<p>The following set of instructions is called 'move and get 4':</p> <pre>function move_and_get_4() pacMan.forward() pacMan.turnRight() pacMan.forward() for i=1, 4 do pacMan.eat1Strawberry() end pacMan.turnLeft() end</pre>	Option A 3	Option B 4
<p>What is missing in the instructions below to take 'Pac-Man' to the strawberries by the path marked out and tell 'Pac-Man' to eat all the strawberries shown?</p>  <pre>for j=1, ??? do move_and_get_4() end</pre>	Option C 5	Option D 6

- A
- B
- C
- D

I thought this test was....

	1	2	3	4	5	
very easy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	very hard

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