quoteCODEquote

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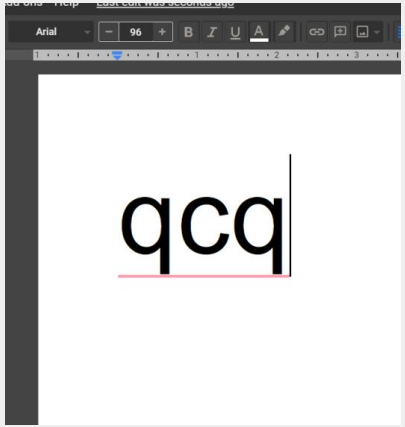

What is qcq?

- Verbose Programing language that brings functionality to pseudocode
- Dynamically typed
- Easy to read and understand
- NOT Python!

Story

```
function alphabeta(node, α, β, maximizingPlayer)
  if node is a terminal node
    return the utility score of node
  if maximizingPlayer
    v := -∞
    for each child of node
      v := max(v, alphabeta(child, α, β, FALSE))
      α := max(α, v)
      if β ≤ α
        break;
    return v
  else
    v := ∞
    for each child of node
      v := min(v, alphabeta(child, α, β, TRUE))
      β := min(β, v)
      if β ≤ α
        break;
    return v
```

(Pseudocode Courtesy of Prof. Andrew Forney)

Definitions of Academic Dishonesty

The following are examples of academic dishonesty which may be interpreted as intentional or unintentional. This list is not meant to be exhaustive. It is the student's responsibility to make sure that his/her work meets the standards of academic honesty set forth in the Honor Code. If the student is unclear about how these definitions and standards apply to his/her work, it is the student's responsibility to contact he instructor to clarify the ambiguity.

A. Cheating and Facilitating Cheating
   1. Possession, distribution, and/or use of unauthorized materials or technology before or during an examination or during the process of preparing a class assignment.
   2. Collaboration on class assignments, including in-class and take home examinations, without the permission of the instructor.
   3. Provision of assistance to another student attempting to use unauthorized resources or collaboration on class assignments or examinations.

B. Plagiarism
   1. Presentation of someone else's ideas or work, either in written form or non-print media, as one's own.
   2. Omission or improper use of citations in written work.
   3. Omission or improper use of credits and attributions in non-print media.

C. Falsification of Data
   1. Presentation of altered or fabricated data, such as lab reports, with the intention of misleading the reader.
   2. Presentation of forged signatures as authentic.
   3. Use of false citations, either incorrect or fabricated, including sources found on the Internet.

D. Unauthorized Access to Computers or Privileged Information
   1. Use of University network and/or computer hardware to gain unauthorized access to files, and alteration or other use of those files.

E. Improper Use of Internet Sites and Resources
   1. Inappropriate use of an Internet source, including, but not limited to, submission of a paper, in part or in its entirety, purchased or otherwise obtained via the Internet, and failure to provide proper citation for sources found on the Internet.

Deeper Thinking

output “hello world”

Examples

```
class Point has x and y
   sum is
      out x+y
   end
   distance of a and b is
      out sqrt((x-a)^2+(y-b))
   end
end

p is new Point with x as 2 and y as 3
output p:x
f is p:distance with a as 3 and b as 4
output f
```

Console:

```
2
1.414213562
```

```
function average of x and y is
   sum is x+y
   out sum/2
end
loop i from 0 to 5 by 1
   a is call average with x as 3 and y as i*4
   output a
end
```

Console:

```
1.5
3.5
5.5
7.5
9.5
11.5
```

JS vs qcq basics

Operators:

```
x = 5
x + 5
x - 5
x * 5
x / 5
x ** 5
x % 7
```

```
x is 5
x + 5
x - 5
x * 5
x / 5
x ^ 5
x % 7
```

Comparators:

```
x && y
x || y
x < y
x > y
x <= y
x >= y
x === y
x !== y
```

```
x and y
x or y
x < y
x > y
x <= y
x >= y
x == y
x != y
```

Print:

```
console.log(“hello!”)
```

```
output “hello!”
```

JS vs. qcq

Javascript:

```
for (var i=1; i <= 20; i++) {
   if (i % 15 == 0)
       console.log("FizzBuzz");
   else if (i % 3 == 0)
       console.log("Fizz");
   else if (i % 5 == 0)
       console.log("Buzz");
   else
       console.log(i);
}
```

qcq:

```
loop i from 1 to 20 by 1
  if i % 15 == 0   output “fizzbuzz” end
  elif i % 3 == 0  output “fizz”     end
  elif i % 5== 0   output “buzz”     end
  else             output i          end
end
```

“Readability”

To make things easier, qcq can operate with/without any newlines or indents!
Leading to fun to read programs such as this:

```
loop i from 1 to 20 by 1 if i % 15 == 0 output “fizzbuzz” end else if i % 3==0 output “fizz” end else if i % 5==0 output “buzz” end else output i end end
```

```
                                                  class Point has
                                                                                  x and y sum is
                              x+y out sum
                                                          end distance of a and b
            is out (x-a)*(y-b)
                                  end end p is new Point
                                                                  with x as 2 and y as
                              3 output p:x f
                                          is p:distance with a as 3 and b as 4
```

THANK YOU!