Blocks for Open edX

Presented by

Wei Yang

Co-founder of Elite Education

Agenda

1. Who am I?
2. What do we do?
3. Why randomization is not easy?
4. What is Scratch?
5. What have we done with Blocks?
6. What to do next?

Who am I?

- Co-founder of Elite Education in Guangzhou, China
- Associate Professor at Long Island University, New York
- Course launched on Open edX based platform since 2016
- A big fan of MATLAB
- A so-so C coder

Who do we do?

1. E-ducation , a SaaS online learning and training platform based on Open edX for organizations.

Who do we do?

1. EliteMBA , an online business-related courses learning platform based on Open edX for individuals and organizations.

Why randomization is not easy?

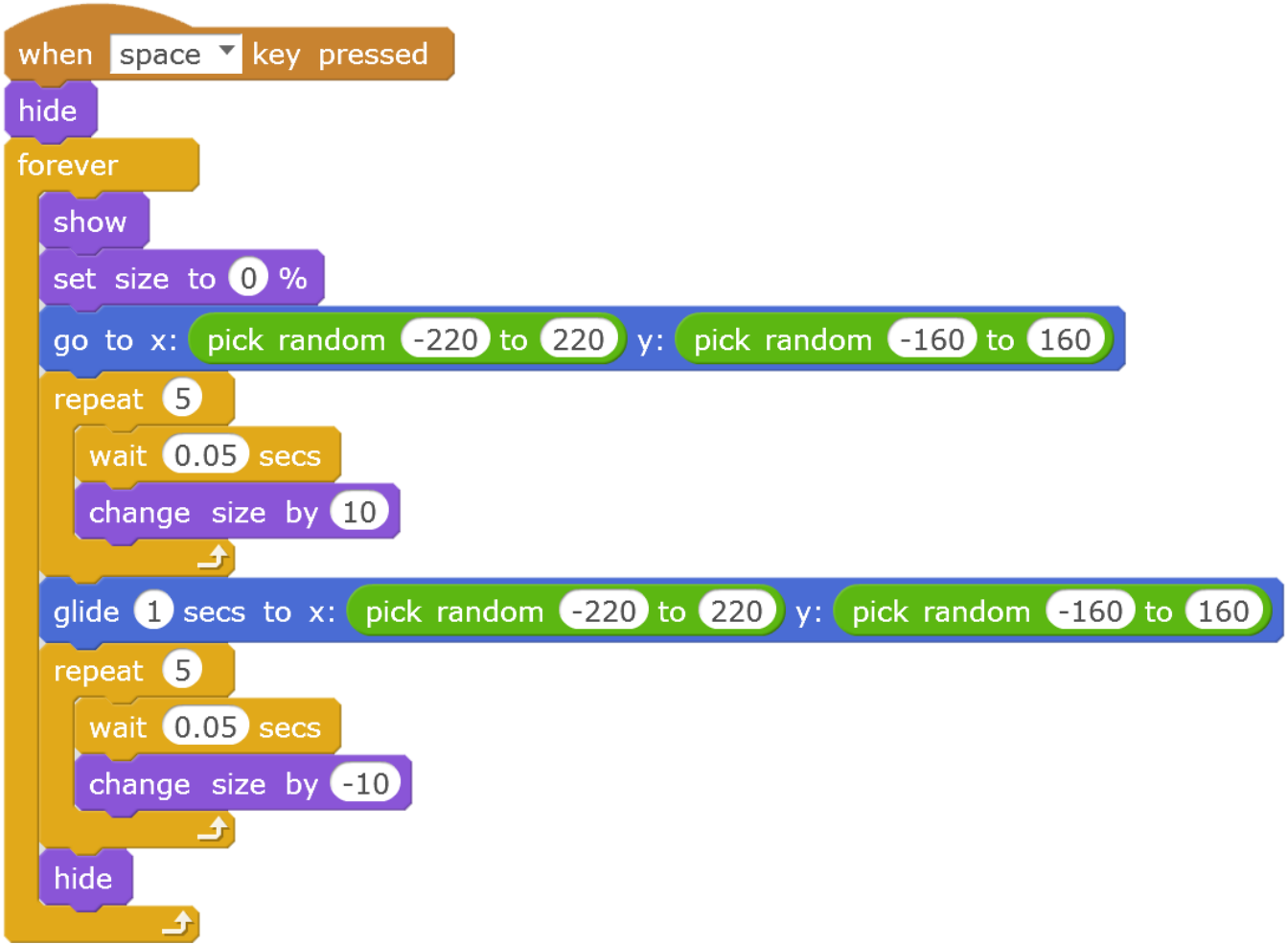
1. Course developers (HRs / Professors) are strangers to Python and lack of programming and coding practices.
2. IT professionals do not have in-depth knowledge of courses.
3. Staffing an IT department may not be an issue for large corporations however many SMEs cannot afford it.

What is Scratch?

1.

is a project of the Lifelong Kindergarten Group at the MIT Media Lab. It is provided free of charge.

2. Scratch is a block-based visual programming language and online community targeted primarily at children. Users of the site can create online projects using a block-like interface.


when space key pressed
hide
forever
show
set size to 0 %
go to x: pick random -220 to 220 y: pick random -160 to 160
repeat 5
wait 0.05 secs
change size by 10
glide 1 secs to x: pick random -220 to 220 y: pick random -160 to 160
repeat 5
wait 0.05 secs
change size by -10
hide

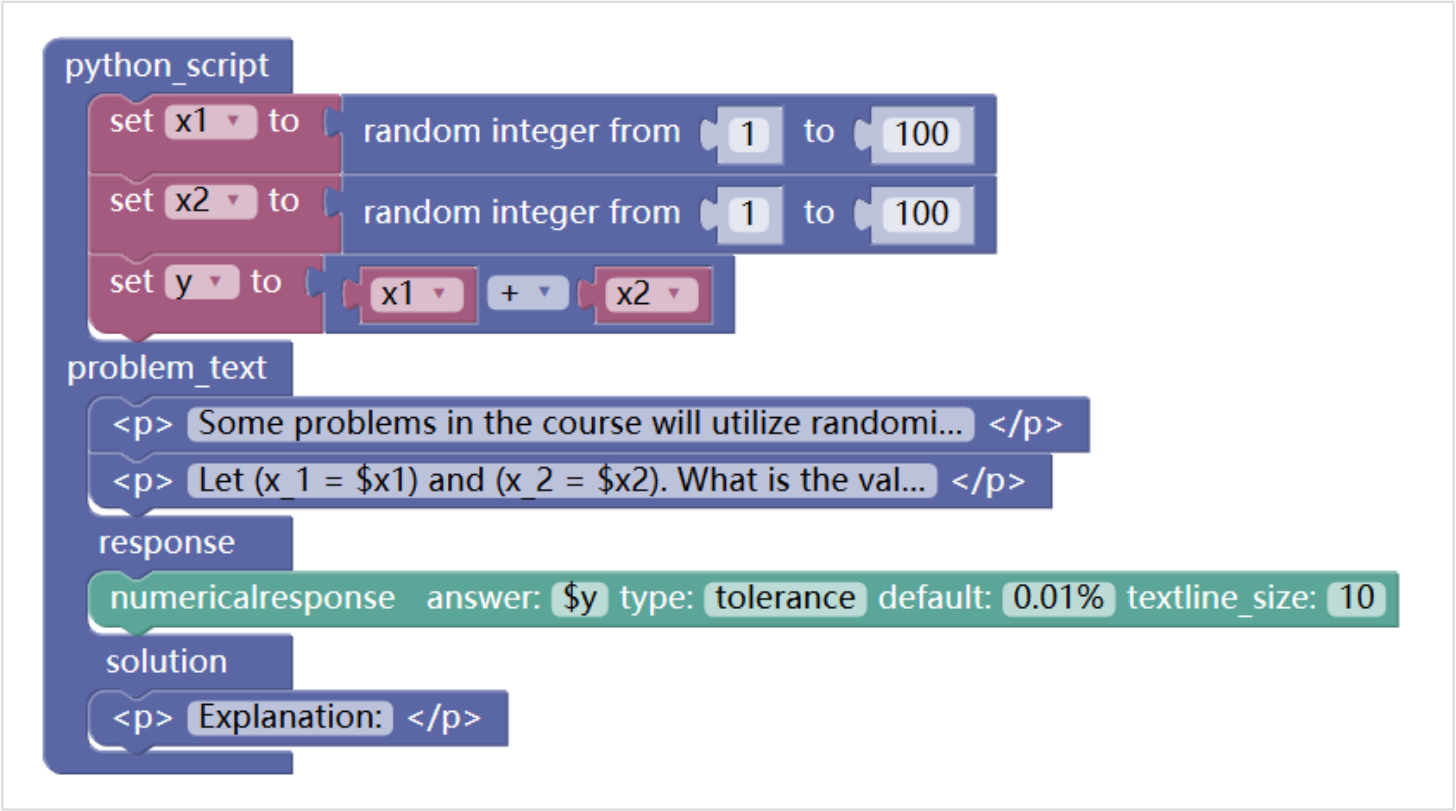
What have we done with Blocks?

1. https://e-ducation.github.io/blocks4edx/

Example from Open edX

```
<problem>
  <p>Some problems in the course will utilize randomized parameters.
     For such problems, after you check your answer you will have the option
     of resetting the question, which reconstructs the problem with a new
     set of parameters.</p>
<script type="loncapa/python">
x1 = random.randint(0, 100)
x2 = random.randint(0, 100)
y = x1+x2
</script>
<p>Let (x_1 = $x1) and (x_2 = $x2). What is the value of (x_1+x_2)?</p>
<numericalresponse answer="$y">
  <responseparam type="tolerance" default="0.01%" name="tol"
    description="Numerical Tolerance"/>
  <textline size="10"/>
</numericalresponse>
<solution>
  <p><b>Explanation:</b></p>
</solution>
</problem>
```

Example from Open edX



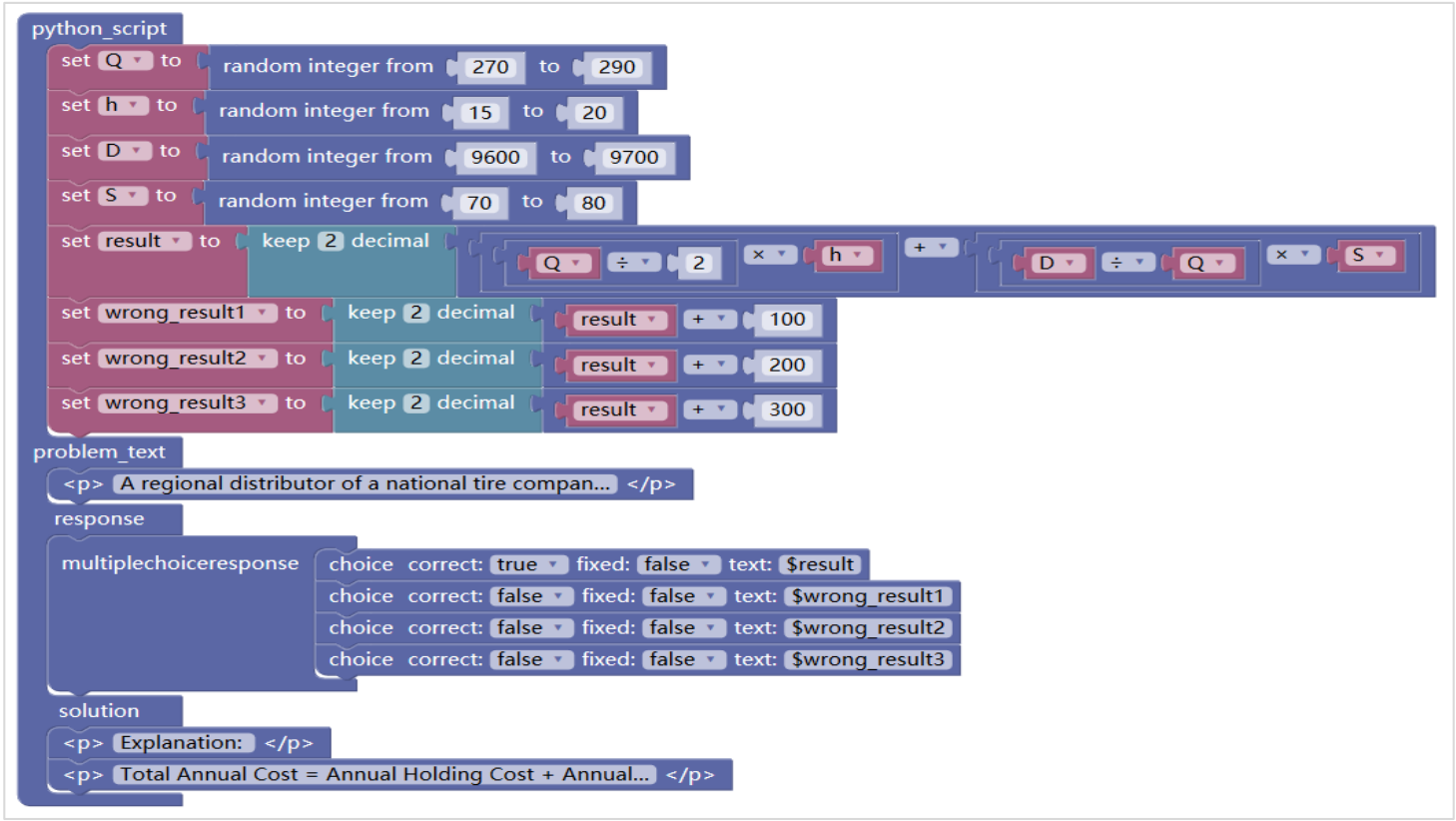
Example from Elite Education

1. A regional distributor of a national tire company sells about 9,656 units of a certain type of steel-belt radial ply tire in one year. The annual holding cost is $18 per tire and the annual ordering cost is $78. The distributor orders 290 tires per time. Question: How much would the total annual cost be? What is the total cost if the distributor ordered in EOQ?

Example from Elite Education

1. Q: random from 270 to 290
2. h: random from 15 to 20
3. D: random from 9600 to 9700
4. S: random from 70 to 80
5. Answer: $\frac{Q}{2} \times h + \frac{D}{Q} \times S$

Example from Elite Education



A regional distributor of a national tire company sells about 9692 units of a certain type of steel-belt radial ply tire in one year. The annual holding cost is $18 per tire and the annual ordering cost is $71. The distributor works 280 days per year. Question: How much would the total annual cost be if the distributor ordered in EOQ?

- 4977.61
- 5177.61
- 5277.61
- 5077.61

提交 您已经尝试了1次（总共可以尝

A regional distributor of a national tire company sells about 9677 units of a certain type of steel-belt radial ply tire in one year. The annual holding cost is $20 per tire and the annual ordering cost is $72. The distributor works 272 days per year. Question: How much would the total annual cost be if the distributor ordered in EOQ?

- 5581.56
- 5381.56
- 5481.56
- 5281.56

提交 您已经尝试了0次（总共可以尝试3次）

保存 重置

What to do next?

1. More blocks for other types of randomized questions.
2. Or probably for all types of problems / questions.

Project Info

1. GitHub: e-ducation/blocks4edx
2. https://e-ducation.github.io/blocks4edx/
3. Key contributor:

Wenjie WU, Sr. Systems Architect

wj.wu@eliteu.cn

https://github.com/wwj718

Thank you very much for listening!

非常感谢您的聆听！

Learn to Change · Change to Improve