

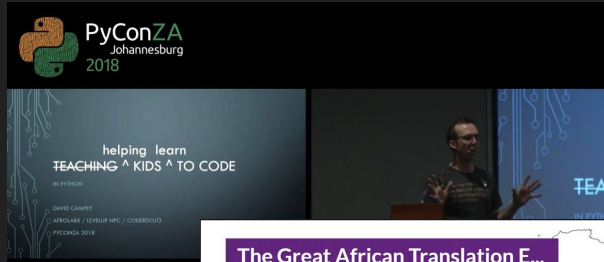
project goal:  
make it more delightful  
to learn python  
by being  
able to instruct the turtle  
in the  
learner's home language



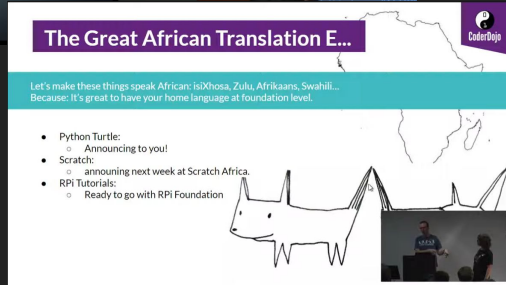
Primary proj goal is to make it more delightful to learn python by being able to instruct the turtle in the learner's home language.

11

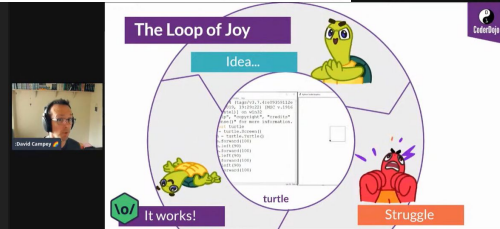
# :David - Helping Kids Code at PyconZA...



2018 - Helping kids learn to code  
Finding the fun, tools and toys



2019 - Teaching kids to code 2.0  
with Whitney, proposed African translations



2021 - Loop of Joy  
Idea → struggle → it works!

# turtle-translated

- Tell you a story
- Tech Demo
- Tempt you down the path

# turtle-translated



- Tell you a story  
about an idea, turned into a turtle, turned into a cat,  
that cat learnt languages, and inspired the turtle
- Tech Demo
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- Tech Demo  
experience the idea, with that cat, and that turtle,  
in other languages
- Tempt you down the path



# turtle-translated

- Tell you a story  
about an idea, turned into a turtle, turned into a cat,  
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- Tech Demo  
experience the idea, with that cat, and that turtle,  
in other languages
- Tempt you down the path  
to help kids into learning  
or help turtle learn languages





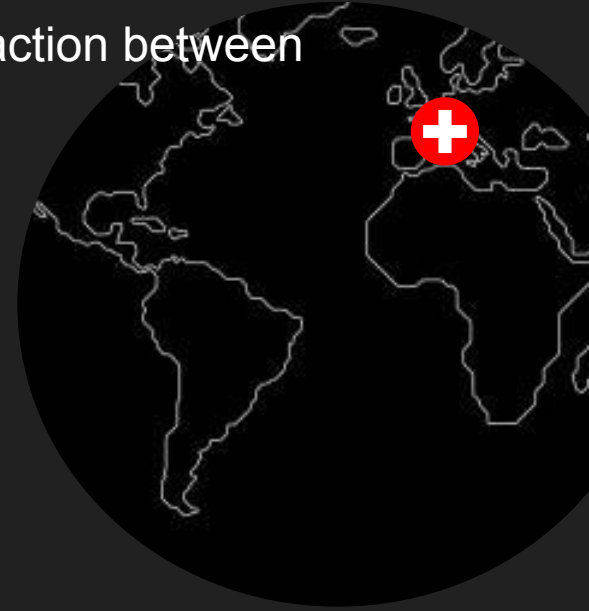
Tell you a story

# An idea...



Piaget - Constructivism

“humans create knowledge through the interaction between their experiences and ideas”



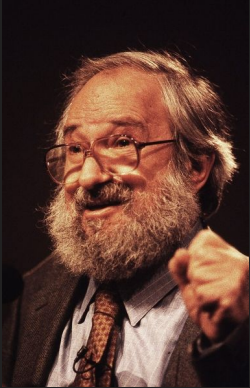


# An idea...



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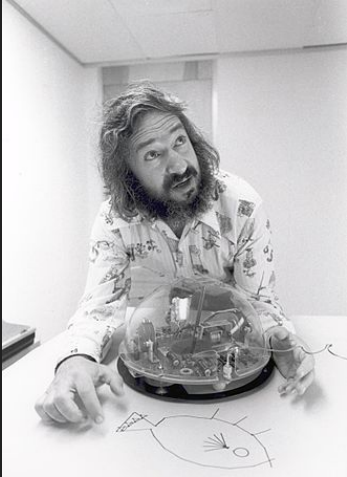


Papert - Constructionism

“the learner experiences constructing a meaningful product”



# Turned into a Turtle



Papert - MIT - Robotic Turtle

A small mobile robot called the Logo Turtle  
“to strengthen the ability to learn knowledge”

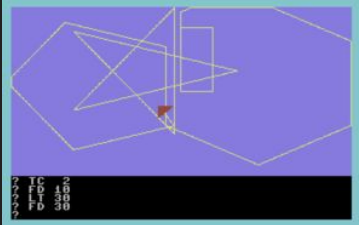


# Turned into a Turtle...



Papert - MIT - Robotic Turtle

A small mobile robot called the Logo Turtle  
“to strengthen the ability to learn knowledge”



Commodore 64 - Virtual Turtle



Logo - On-screen turtle

:David's first formal computer training



# Turned into a Cat



## Resnick - Scratch - Scratch Cat

- the world's largest coding community for children
- a simple visual interface
- create digital stories, games, and animations.

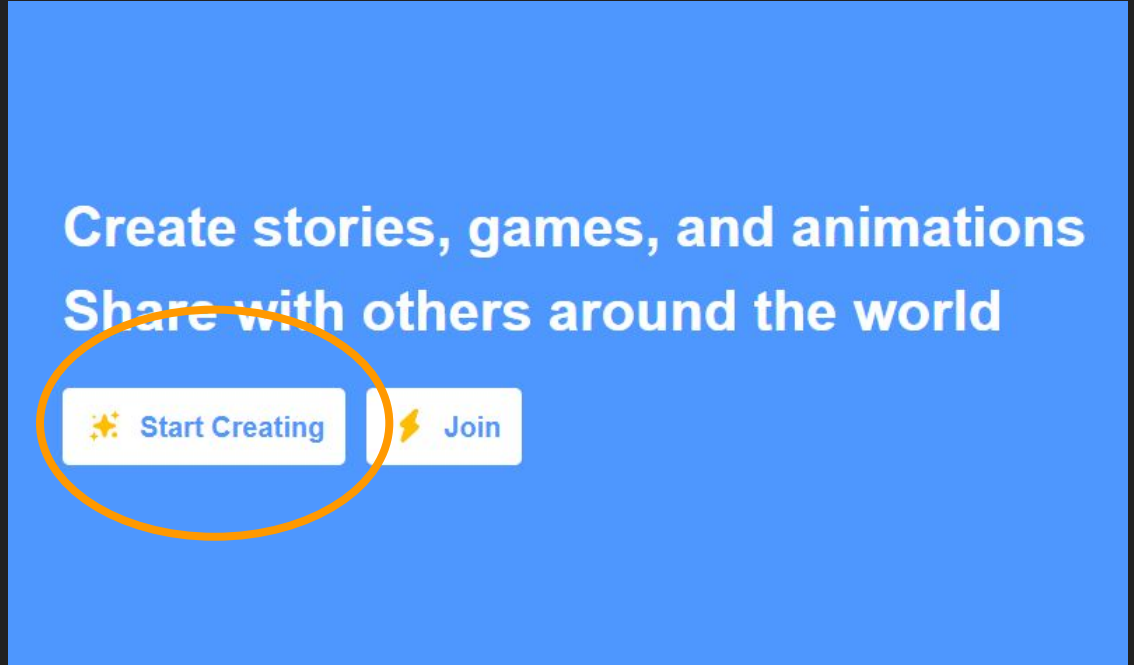




Tech Demo

# Scratch - Cat

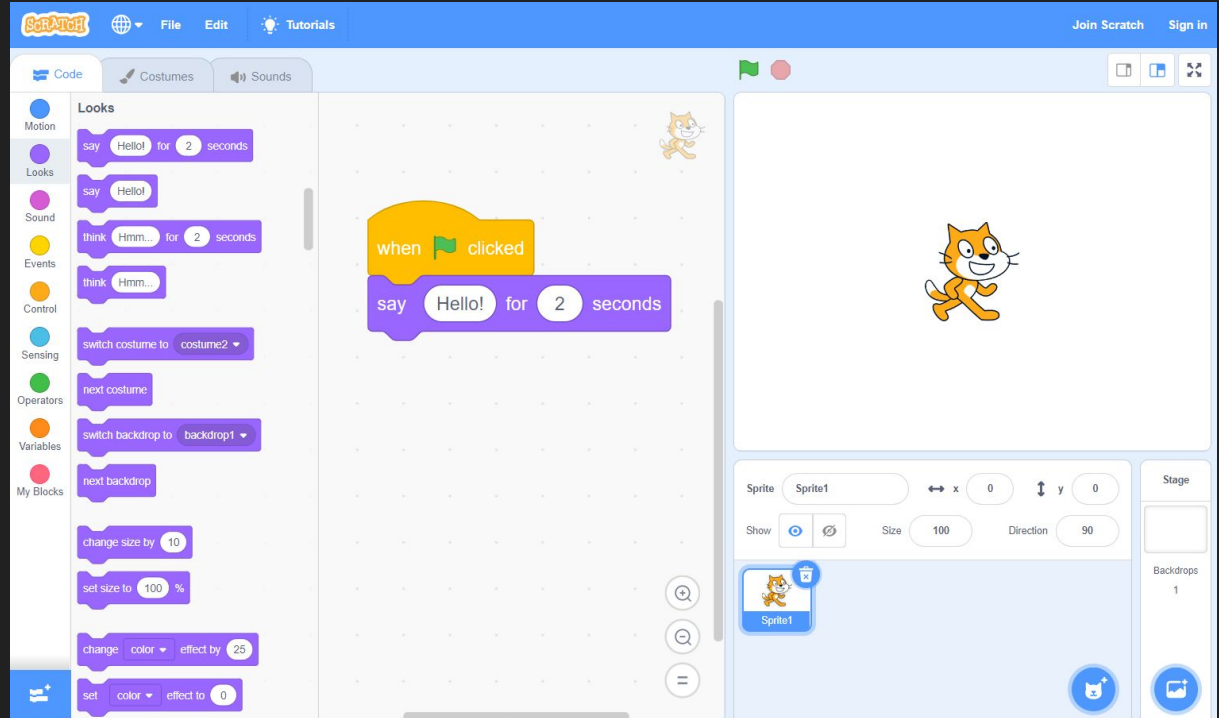
scratch.mit.edu



# Scratch - Cat

scratch.mit.edu

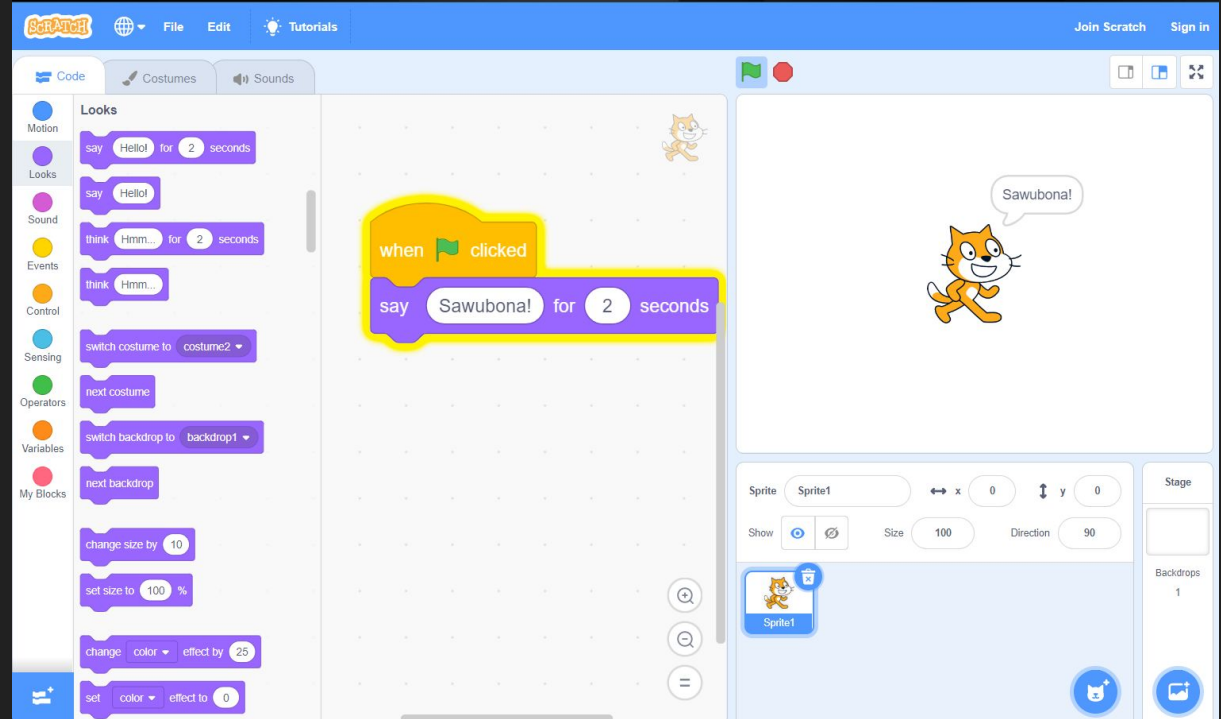
When green flag clicked  
Say "Hello" for 2 seconds



# Scratch - Cat

scratch.mit.edu

When green flag clicked  
Say ~~“Hello”~~ “Sawubona”  
for 2 seconds



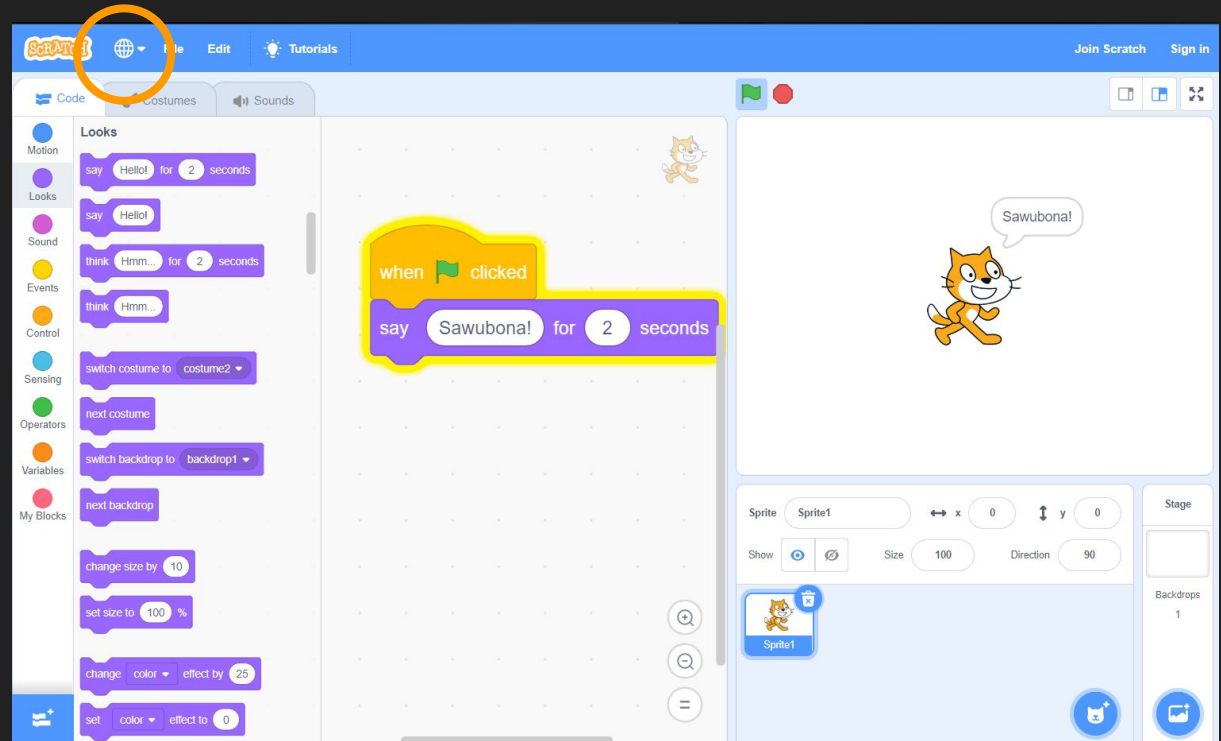


# Scratch - Cat

scratch.mit.edu

When green flag clicked  
Say ~~“Hello”~~ “Sawubona”  
for 2 seconds

Globe in top left, isiZulu



# Scratch - Cat

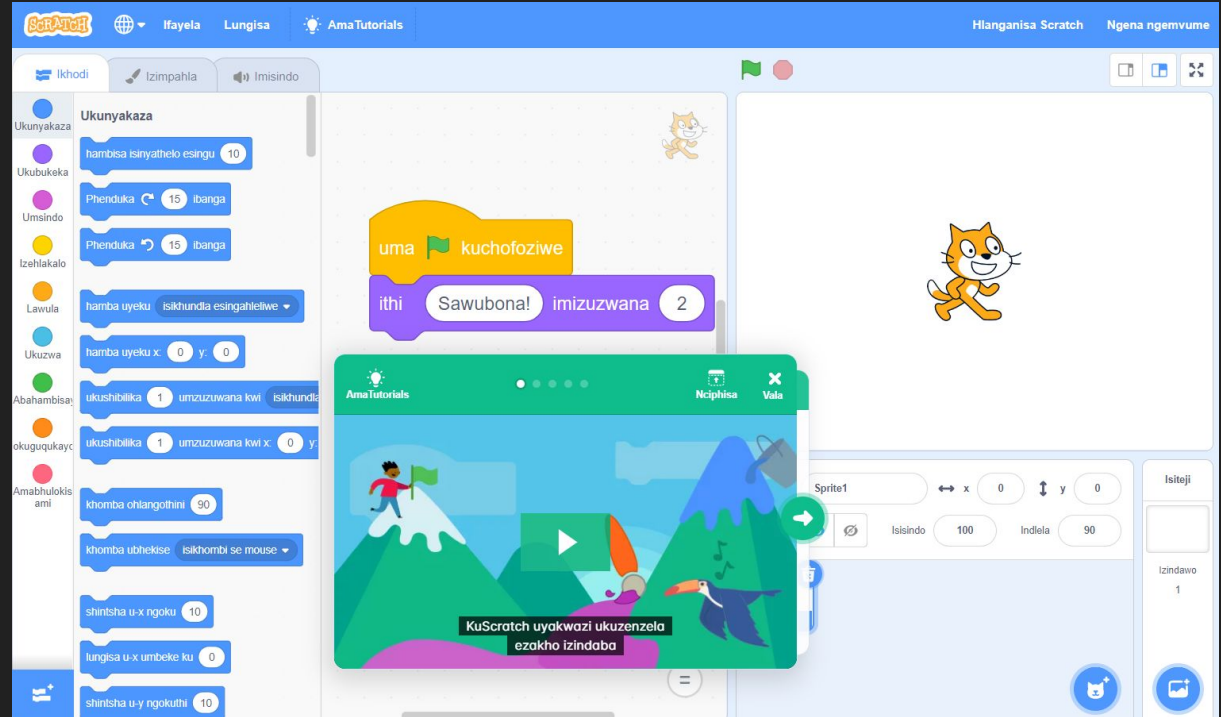
scratch.mit.edu

When green flag clicked  
Say ~~“Hello”~~ “Sawubona”  
for 2 seconds

Globe in top left → isiZulu

Wow! Hewu!

Scratch is available in  
more than 70 languages.



# import turtle

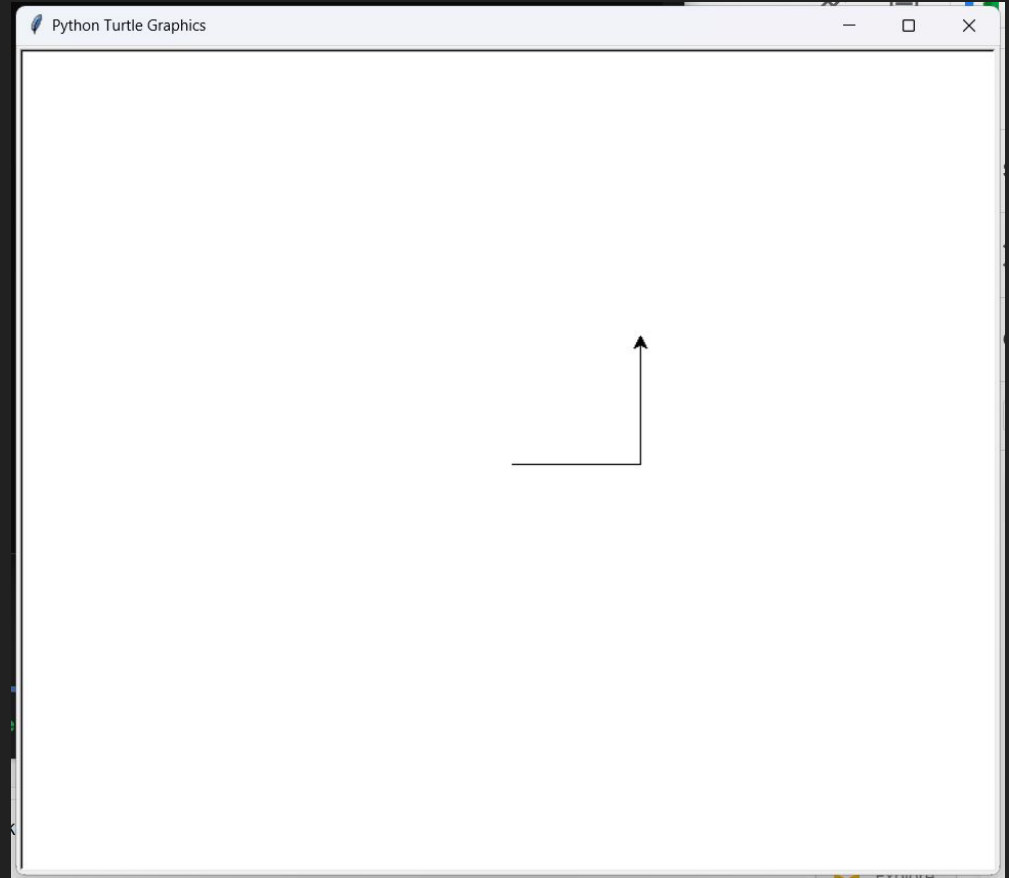
```
>>> import turtle
```

```
>>> tim = turtle.Turtle()
```

```
>>> tim.forward(100)
```

```
>>> tim.left(90)
```

```
>>> tim.forward(100)
```



```
import fudo
```

```
>>> import fudo
```

# import fudo

```
>>> import fudo
```

No module!

```
$ git clone https://github.com/coderlevelup/turtle-translated.git
```

# import fudo

```
>>> import fudo
```

```
>>> thabo = fudo.Fudo()
```

```
>>> thabo.phambili(100) #liKhulu
```

```
>>> thabo.ekhohlo(90)
```

```
# amashumi alithoba
```

```
>>> thabo.phambili(100)
```

```
>>> help(fudo)
```



:David Campey @davidcampey · Aug 26

fudo.phambili(1) 🤖

~= turtle.forward(1)

~= one small step for 🐢

Learners can now talk to turtle, or fudo, in isiXhosa!

[github.com/coderlevelup/t...](https://github.com/coderlevelup/t...)

Primary proj goal is to make it more delightful to learn python by being able to instruct the turtle in the learner's home language.

```
64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()"
>>> import fudo
fudo(turtle) 0.1 - yePython 3 - 2022
>>> thabo = fudo.Fudo()
>>> thabo.ekhohlo(45)
>>> thabo.phambili(100)
>>> thabo.ekhohlo(90)
>>> thabo.phambili(10)
>>> thabo.ekhohlo(90)
>>> thabo.phambili(100)
>>> thabo.ekhohlo(90)
>>> thabo.phambili(100)
>>> thabo.ekhohlo(90)
>>> thabo.phambili(10)
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>>> thabo.phambili(100)
>>> thabo.ekhohlo(90)
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>>> thabo.ekhohlo(90)
>>> thabo.phambili(100)
>>> thabo.ekhohlo(90)
>>>
```



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CoderLevelUp

# import fudu

```
>>> import fudu
```

```
>>> sbo = fudu.Fudu()
```

```
>>> sbo.phambili(100) # iKhulu
```

```
>>> sbo.sokudla(90)
```

#amashumi ayisishiyagalolunye

#isi- + -shiya ("leave behind") + (u)galo ("finger") + lunye ("one").

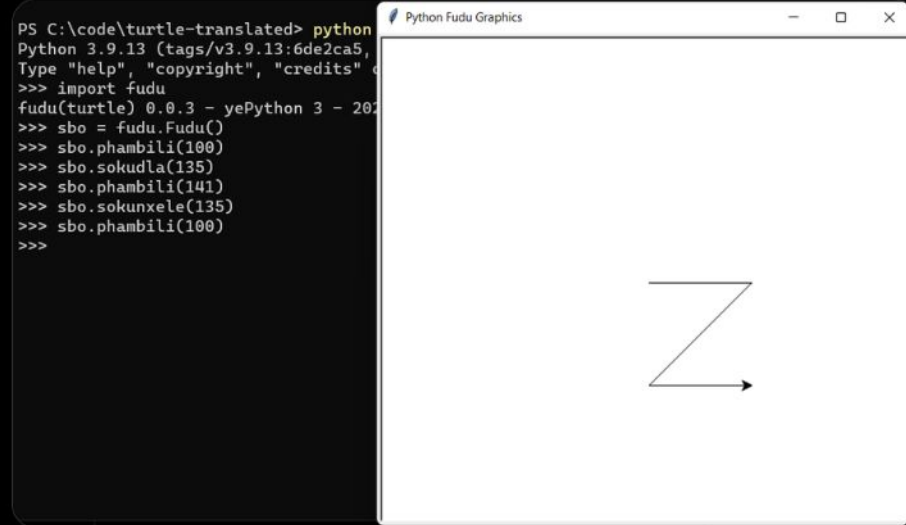
```
>>> help(fudo)
```

...and as of last night, python turtle has a new isiZulu speaking friend, fudu.

Learners can now instruct fudu, in isiZulu!

[github.com/coderlevelup/t...](https://github.com/coderlevelup/t...)

Primary proj goal is to make it more delightful to learn python by being able to instruct turtle in the learner's home language.





Tempt you  
... down the path



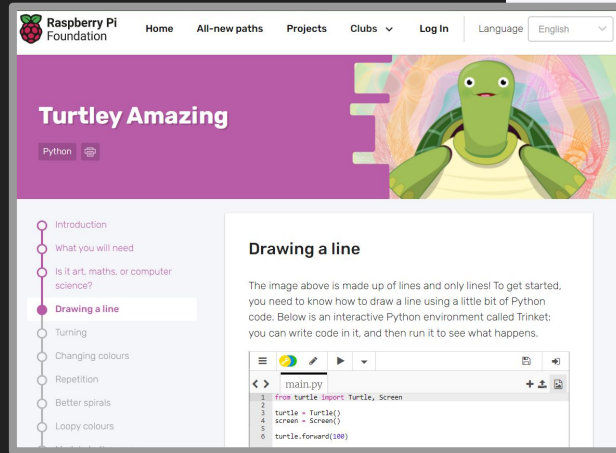
# Try a project, show someone...

projects.raspberrypi.org

Step-by-step projects, designed and tested for young learners

- Individual projects
- All-new paths

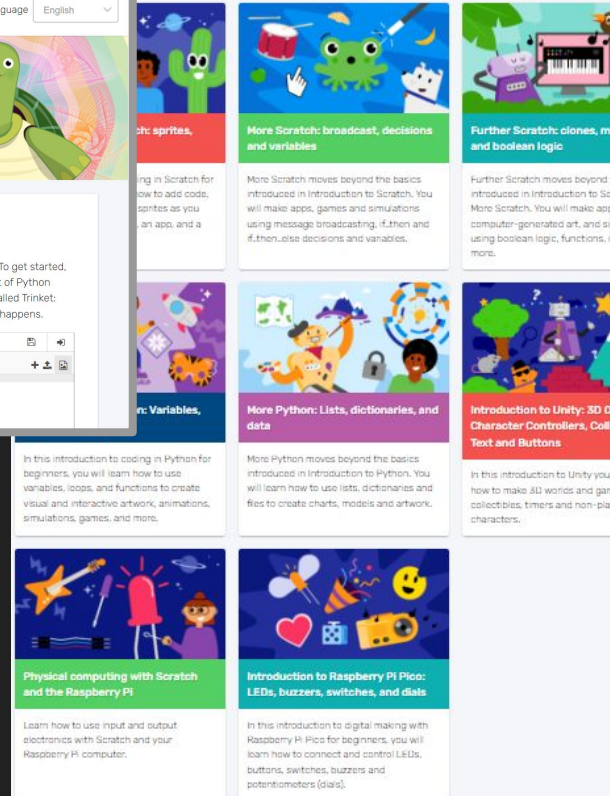
Soon, to have our languages available for translation contrib.



All-new project paths



Learn coding and design skills so you can make things that you. You can find out more about the new paths in [this blog](#) and let us know [your feedback](#).

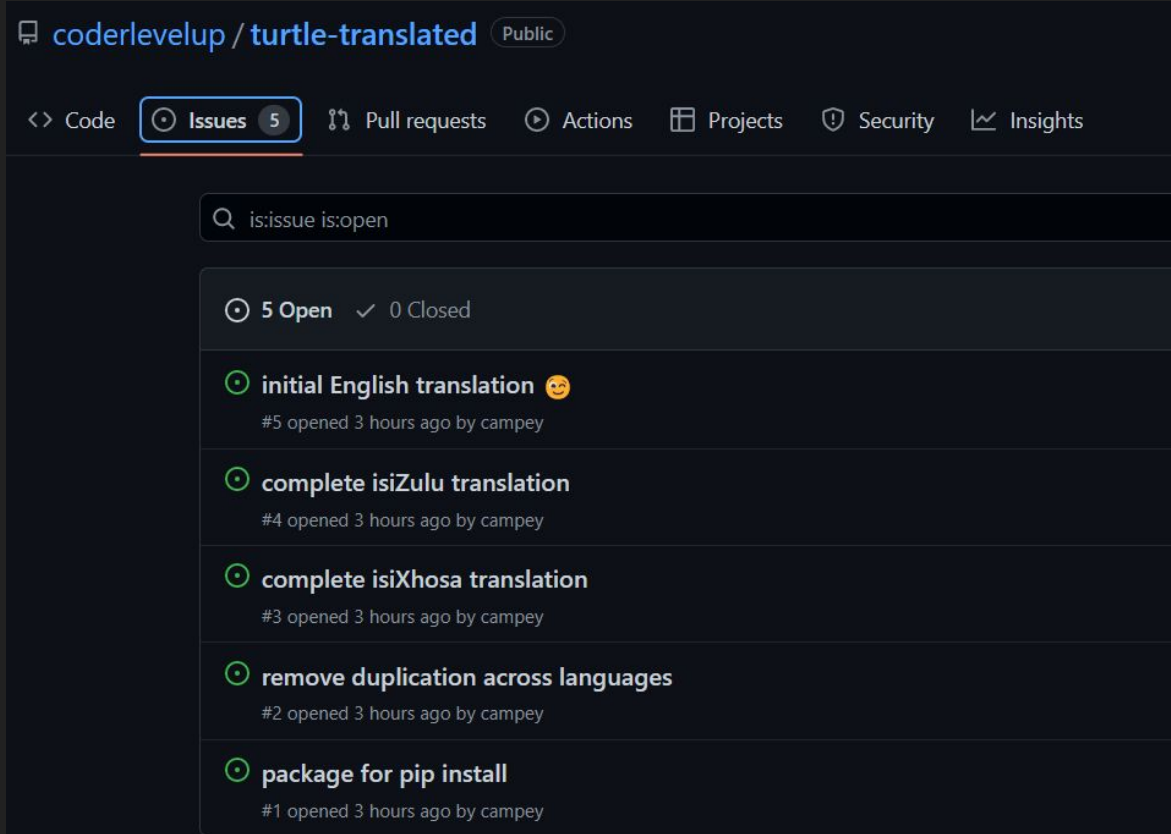


# Help with turtle-translated

GitHub repository

Has issues → → →

Come help fix those,  
or others



The screenshot shows the GitHub repository page for 'coderlevelup / turtle-translated'. The repository is public. The 'Issues' tab is selected, showing 5 open issues. The issues are listed in descending order of creation time, all opened 3 hours ago by user 'campey'.

Issue Title	Issue Number	Status	Created By	Created At
initial English translation 🤔	#5	Open	campey	3 hours ago
complete isiZulu translation	#4	Open	campey	3 hours ago
complete isiXhosa translation	#3	Open	campey	3 hours ago
remove duplication across languages	#2	Open	campey	3 hours ago
package for pip install	#1	Open	campey	3 hours ago

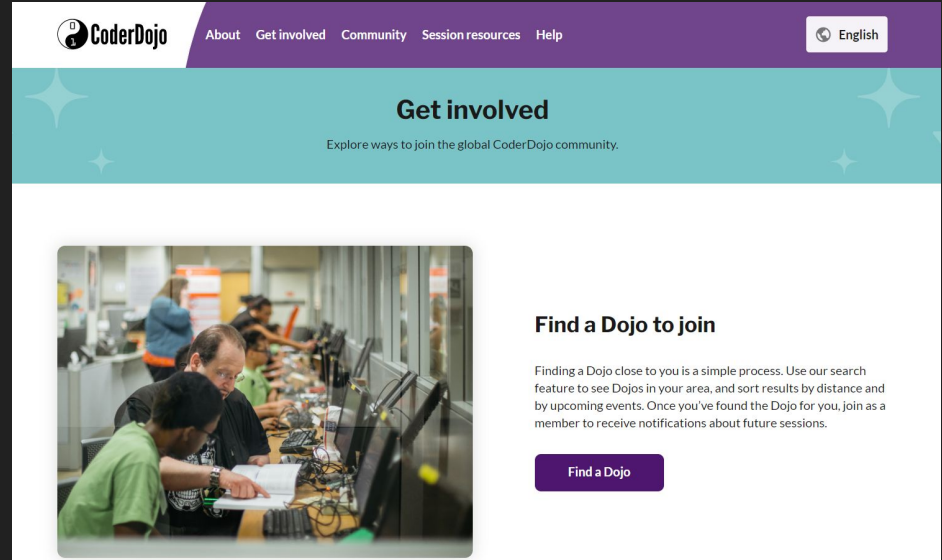
# Volunteer @ a CoderDojo near you!

Find a dojo at [coderdojo.com](https://coderdojo.com)

e.g. near you in Durban

- Tom @ Blue Roof, on the Bluff
- S'bo @ Valley Trust, Botha's Hill

And we're rolling school Code Clubs Too! (connect at your local Dojo)



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111