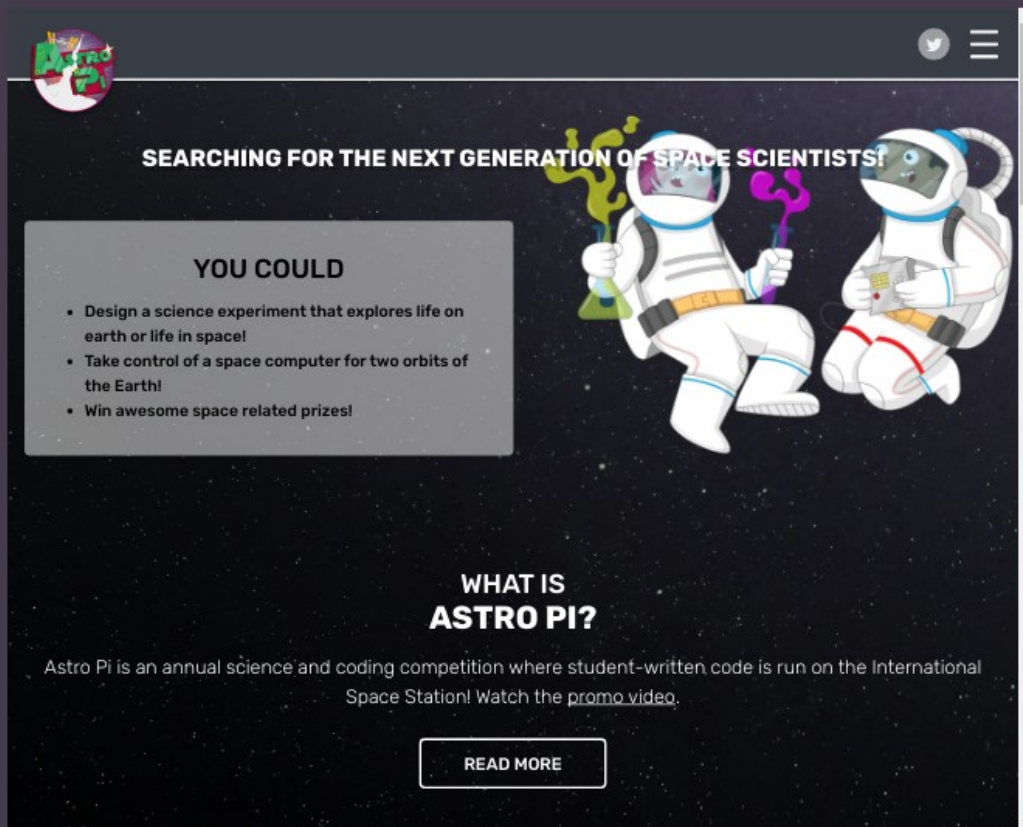


Η μέτρηση του π
στον Διεθνή Διαστημικό Σταθμό

ΓΕΛ Χαλάστρας



Astro Pi competition



The image shows a screenshot of the Astro Pi competition website. The background is a dark space with stars. At the top left is a circular logo with a globe and the text 'ASTRO PI'. At the top right are a Twitter icon and a hamburger menu icon. The main heading is 'SEARCHING FOR THE NEXT GENERATION OF SPACE SCIENTISTS!' in white. Below this, on the right, is an illustration of two astronauts in white suits floating in space. One astronaut is holding a green flask with a yellow liquid and a purple pipette. The other is holding a small electronic device. On the left, there is a grey box with the heading 'YOU COULD' and a list of three bullet points. At the bottom center, there is a section titled 'WHAT IS ASTRO PI?' followed by a paragraph of text and a 'READ MORE' button.

SEARCHING FOR THE NEXT GENERATION OF SPACE SCIENTISTS!

YOU COULD

- Design a science experiment that explores life on earth or life in space!
- Take control of a space computer for two orbits of the Earth!
- Win awesome space related prizes!

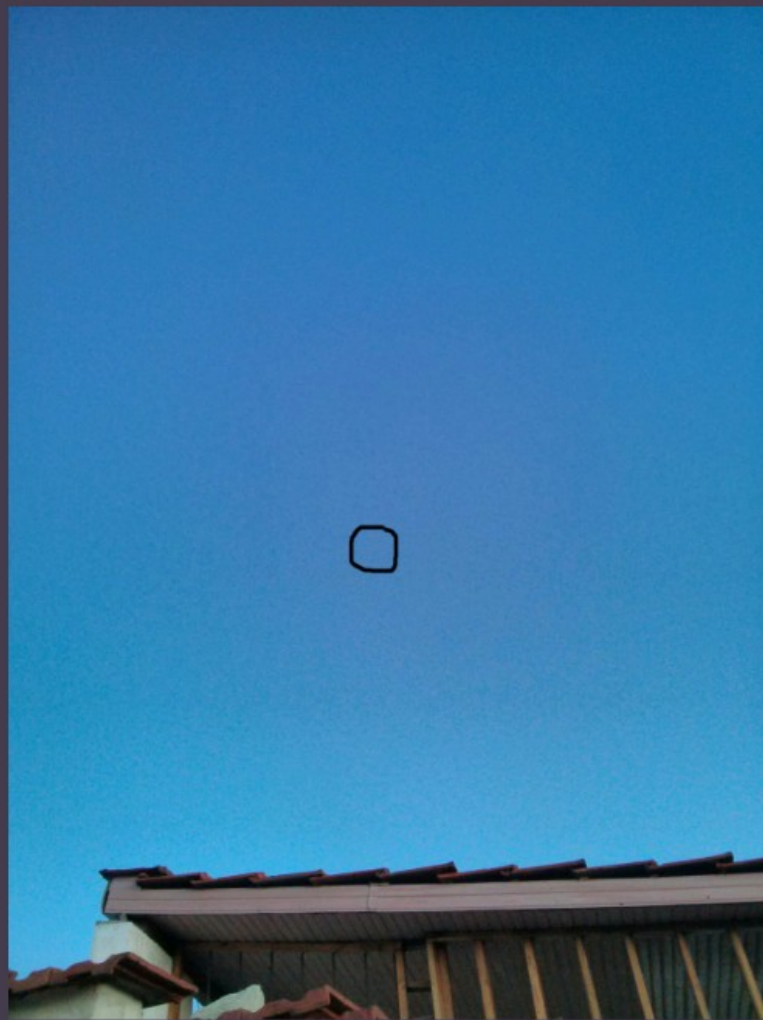
WHAT IS ASTRO PI?

Astro Pi is an annual science and coding competition where student-written code is run on the International Space Station! Watch the [promo video](#).

[READ MORE](#)




IMG20171217_171831.jpg



Spot the Station

The screenshot shows the NASA Spot The Station website. At the top left is the NASA logo. Next to it is the title "Spot The Station" with the subtitle "International Space Station" below it. A hamburger menu icon is on the top right. The main content area is split into two columns. The left column has a dark background with white text. The right column has a white background with a map of the United States. The map is titled "Explore and Find Sighting Opportunities" and features a search bar and numerous orange and yellow circular markers indicating sighting locations across the country. At the bottom of the page, there are social media links and a footer with attribution to Leaflet and other data providers.

 **Spot The Station**
International Space Station

Watch the International Space Station pass overhead from several thousand worldwide locations. It is the third brightest object in the sky and easy to spot if you know when to look up.

Visible to the naked eye, it looks like a fast-moving plane only much higher and traveling thousands of miles an hour faster!

221,166 people are Spotting The Station

[Space Station Website](#)

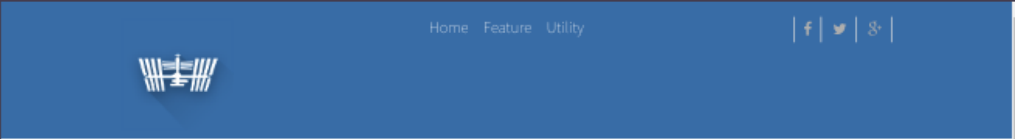
[Meet the Crew](#)

Explore and Find Sighting Opportunities

Enter your city or town


Leaflet | Powered by Esri | National Geographic, DeLorme, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRC...

ISS Detector




Home Feature Utility


f | t | g+




See the International Space Station fly by

ISS Detector is the easiest way to spot the station. Find out when and where to look.


 Google Play

 App store

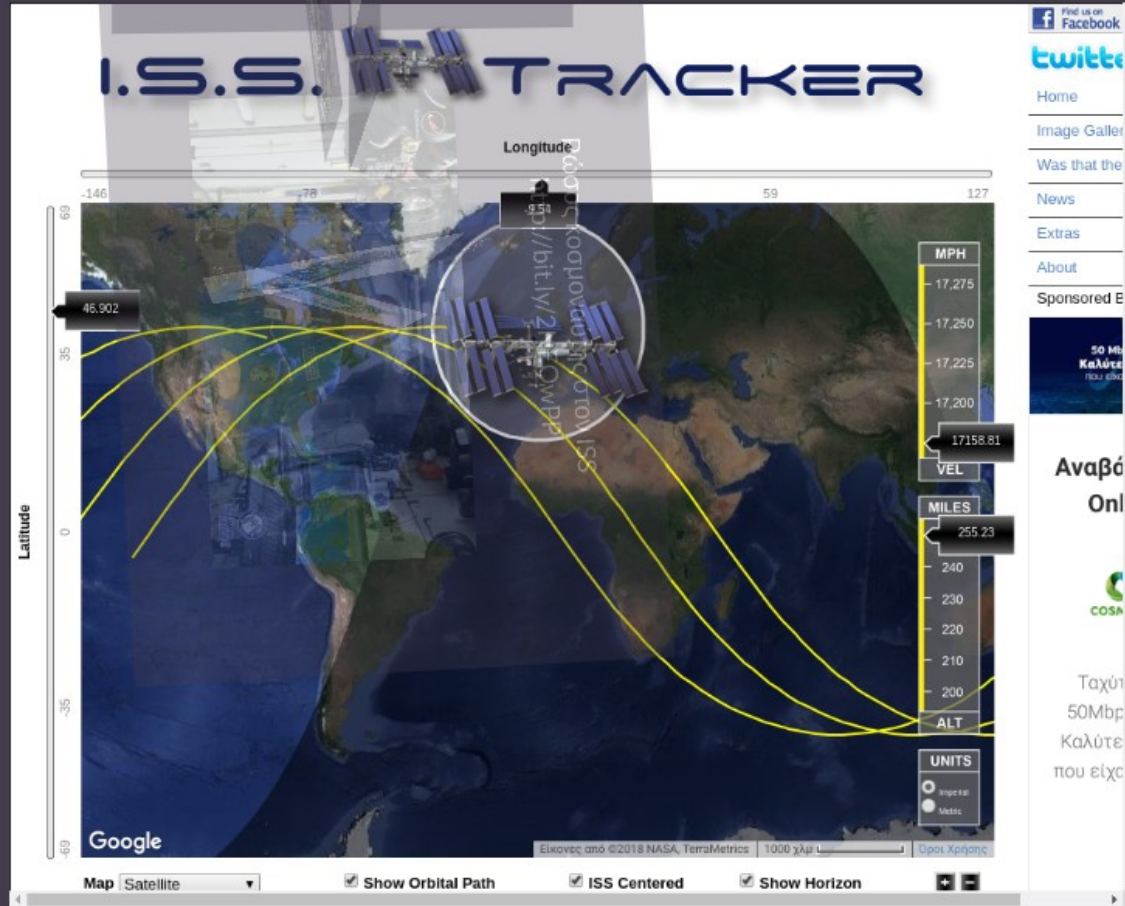
Explore the night sky

 Now on iPhone!

ISS Detector is now available on iPhone



ISS tracker



Ρώσος κοσμοναύτης στον ISS

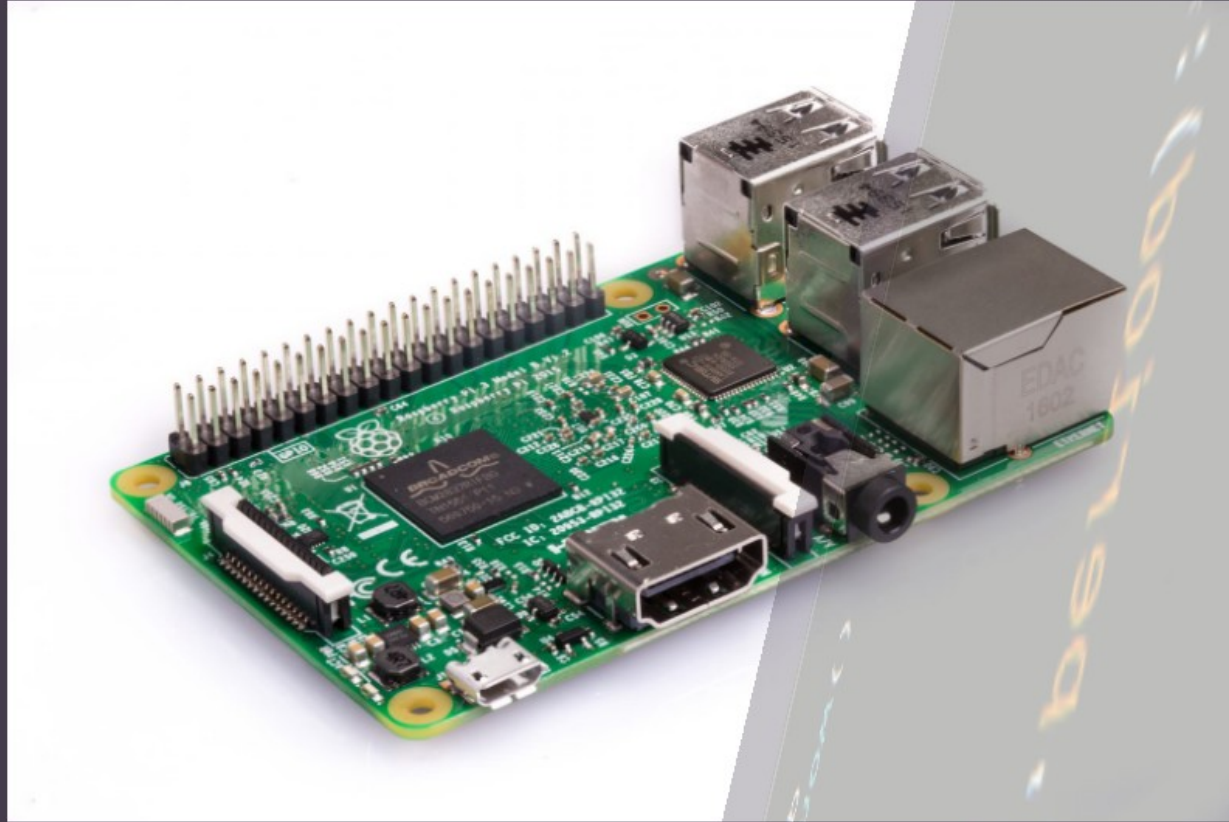
<http://bit.ly/2NEOwPP>



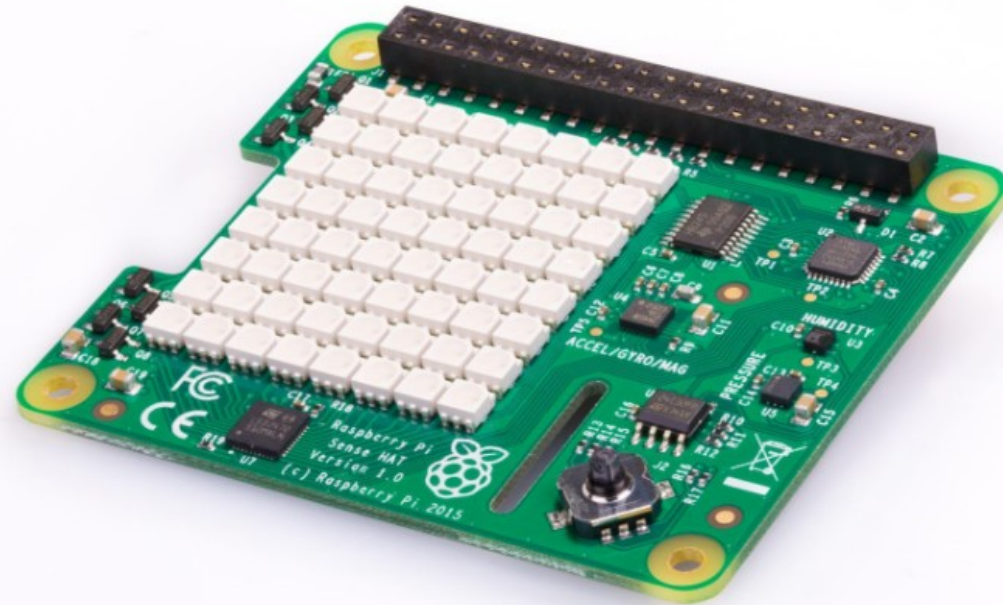
python

```
30 sense_data.append(float(soc[0]))
31 exp = sense.get_carpass_raw()
32 sense_data.append(soc[1])
33 sense_data.append(soc[2])
34 acc = sense.get_accelerometer_raw()
35 acc = sense.get_accelerometer_raw()
36 sense_data.append(acc[0])
37 sense_data.append(acc[1])
38 sense_data.append(acc[2])
```

Raspberry Pi



Sense Hat



Sense Hat
Raspberry Pi

```
#!/usr/bin/env python3
import sys
import time
import os
import random
import RPi.GPIO as GPIO
import Adafruit_GPIOPins as Pins
import Adafruit_Sense_HAT as Sense_HAT

# Set up GPIO pins
GPIO.setmode(GPIO.BCM)
GPIO.setup(1, GPIO.OUT)
GPIO.setup(2, GPIO.OUT)
GPIO.setup(3, GPIO.OUT)
GPIO.setup(4, GPIO.OUT)
GPIO.setup(5, GPIO.OUT)
GPIO.setup(6, GPIO.OUT)
GPIO.setup(7, GPIO.OUT)
GPIO.setup(8, GPIO.OUT)
GPIO.setup(9, GPIO.OUT)
GPIO.setup(10, GPIO.OUT)
GPIO.setup(11, GPIO.OUT)
GPIO.setup(12, GPIO.OUT)
GPIO.setup(13, GPIO.OUT)
GPIO.setup(14, GPIO.OUT)
GPIO.setup(15, GPIO.OUT)
GPIO.setup(16, GPIO.OUT)

# Set up Sense HAT
sense_hat = Sense_HAT.Sense_HAT()

# Main loop
while True:
    # Turn on all LEDs
    for i in range(16):
        GPIO.write_output(i, 1)
    # Sleep for 1 second
    time.sleep(1)
    # Turn off all LEDs
    for i in range(16):
        GPIO.write_output(i, 0)
    # Sleep for 1 second
    time.sleep(1)
    # Turn on a random LED
    led = random.randint(0, 15)
    GPIO.write_output(led, 1)
    # Sleep for 1 second
    time.sleep(1)
    # Turn off the LED
    GPIO.write_output(led, 0)
    # Sleep for 1 second
    time.sleep(1)
```

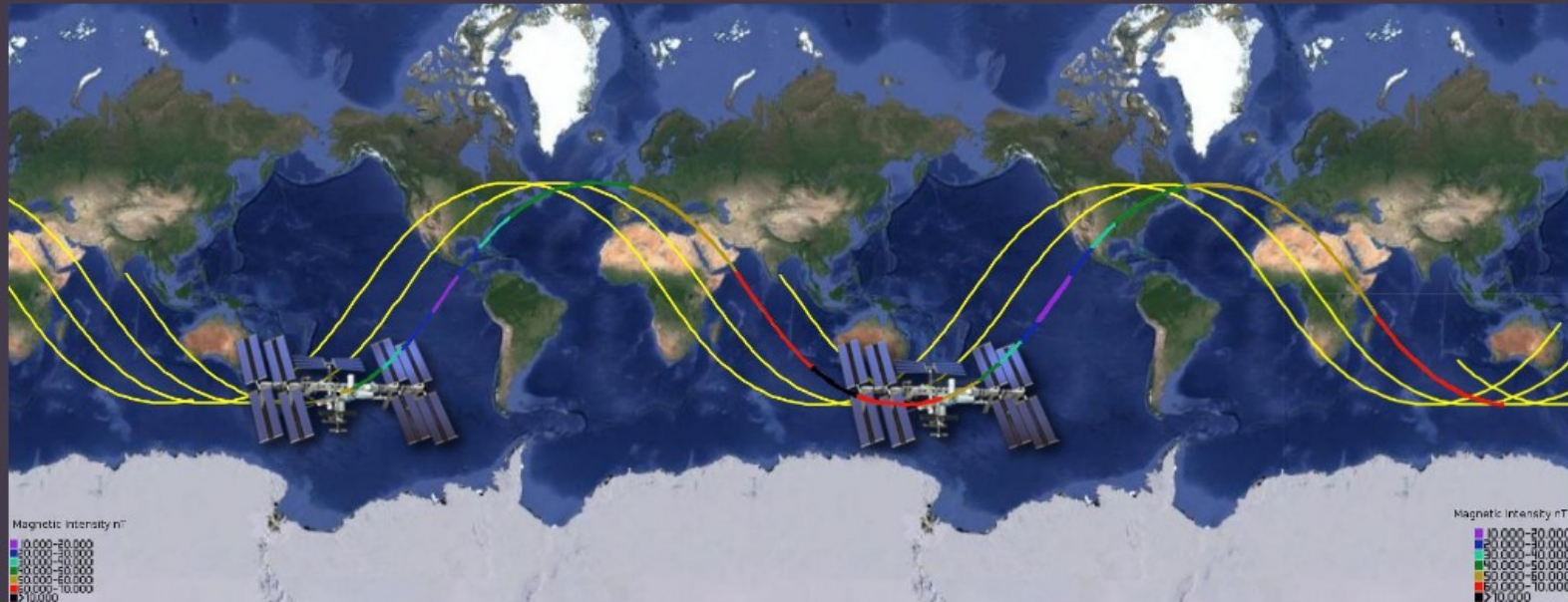
Astro Pi



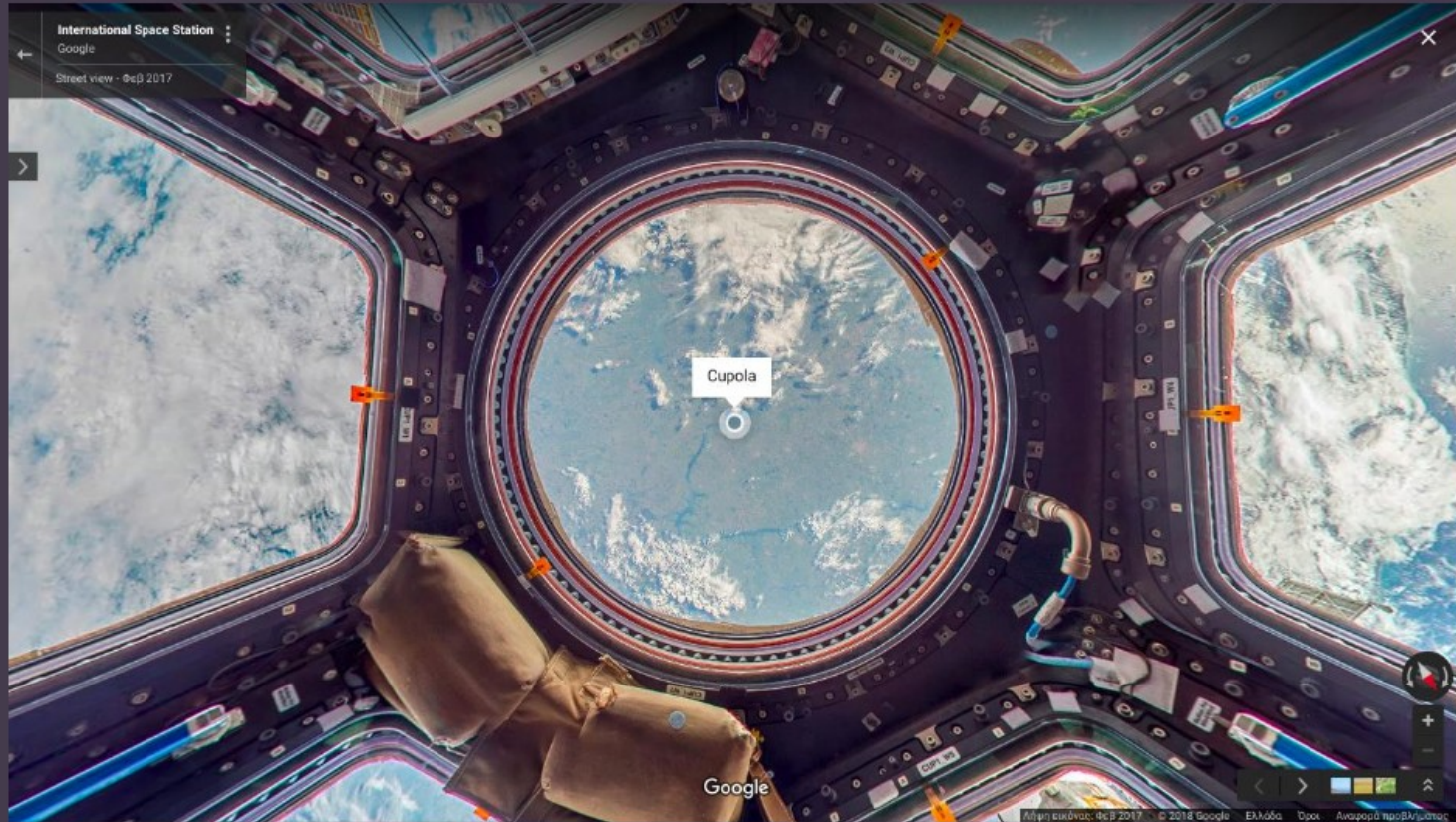
python

```
30 sense_data.append(orientation["roll"])
31 mag = sense.get_compass_raw()
32 sense_data.append(mag["x"])
33 sense_data.append(mag["y"])
34 sense_data.append(mag["z"])
35 acc = sense.get_accelerometer_raw()
36 sense_data.append(acc["x"]).3.3
37 sense_data.append(acc["y"])
38 sense_data.append(acc["z"])
39 gyro = sense.get_gyroscope_raw()
40 sense_data.append(gyro["x"])
41 sense_data.append(gyro["y"])
42 sense_data.append(gyro["z"])
43 sense_data.append(datetime.now())
44 return sense_data
45
46 def compute_pi(dy,dt0,period):#get my pi
47     df=math.radians(dy)
48     if dt0!=0 :
49         w=df/dt0
50         p=w*period/2
51         return p
52     else:
53         return 0
54
55 timestamp=datetime.now()
56 timestamp0=timestamp
57 delay=5
58 mydata=[]
```

2ο ΓΕΛ Καλαμαριάς

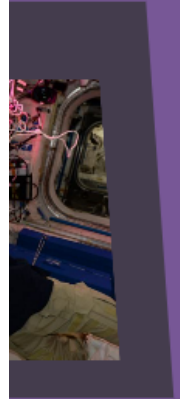
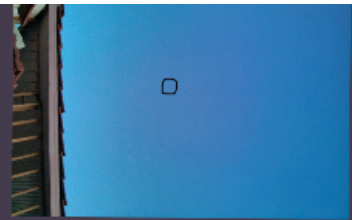


ISS Street View



Mathematica



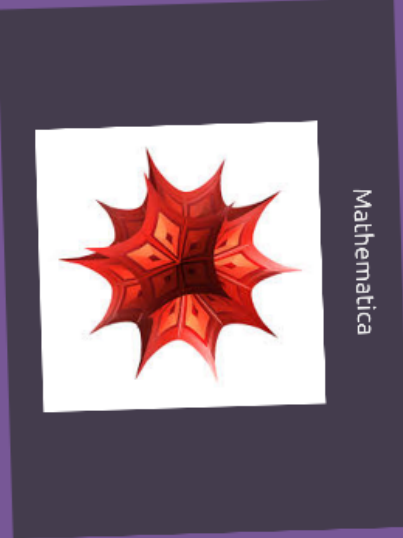


python

```

1: #!/usr/bin/env python
2: import sys
3: import os
4: import math
5: import random
6: import time
7: import argparse
8: import logging
9: import json
10: import urllib2
11: import urllib
12: import socket
13: import hashlib
14: import base64
15: import struct
16: import datetime
17: import calendar
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89: import sys
90: import sys
91: import sys
92: import sys
93: import sys
94: import sys
95: import sys
96: import sys
97: import sys
98: import sys
99: import sys
100: import sys

```



Astro Pi competition

SEARCHING FOR THE NEXT GENERATION OF SPACE SCIENTIST

YOU COULD

- Design a custom mission to Mars or the Moon
- Write code to control a rover or lander
- Analyze real space data from NASA's Mars Global Surveyor
- Build a custom space mission plan

WHAT IS ASTRO PI?

With this online, open-ended code competition, we're asking you to design and build a custom mission plan for a Mars or Moon mission. You'll be able to control a rover or lander, analyze real space data from NASA's Mars Global Surveyor, and build a custom space mission plan.

[SIGN UP](#)

