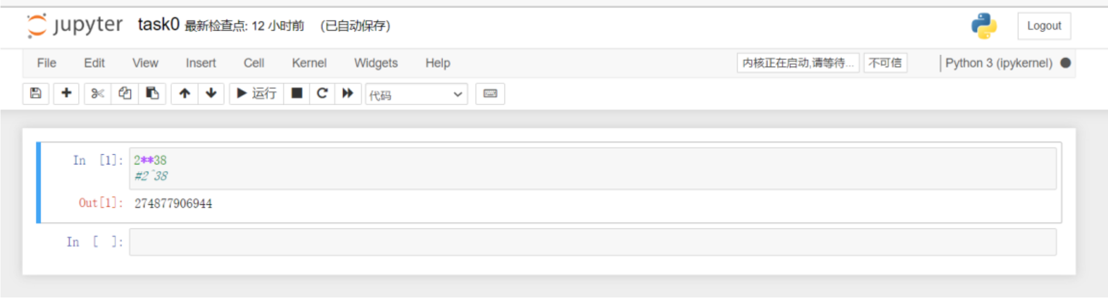
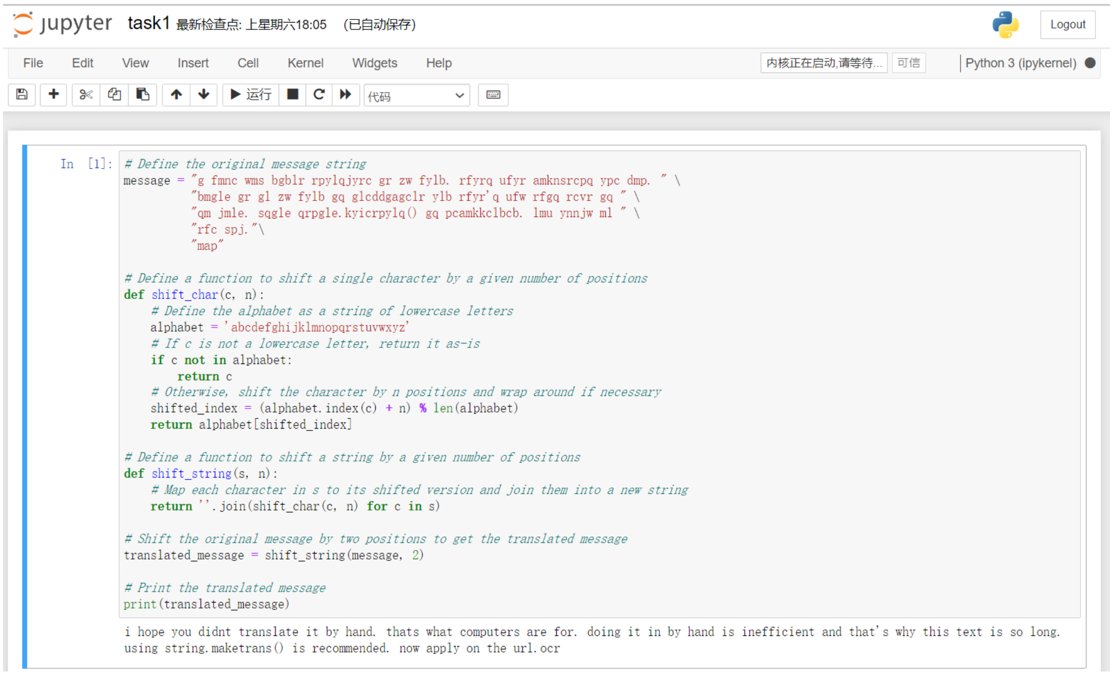
PythonChallenge Code


jupyter task0 最新检查点: 12 小时前 (已自动保存)
Logout
File Edit View Insert Cell Kernel Widgets Help
内核正在启动,请等待... 不可信
Python 3 (ipykernel)
运行
代码

```
In [1]: 2**38
        #2^38

Out[1]: 274877906944

In [ ]:
```


jupyter task1 最新检查点: 上星期六18:05 (已自动保存)
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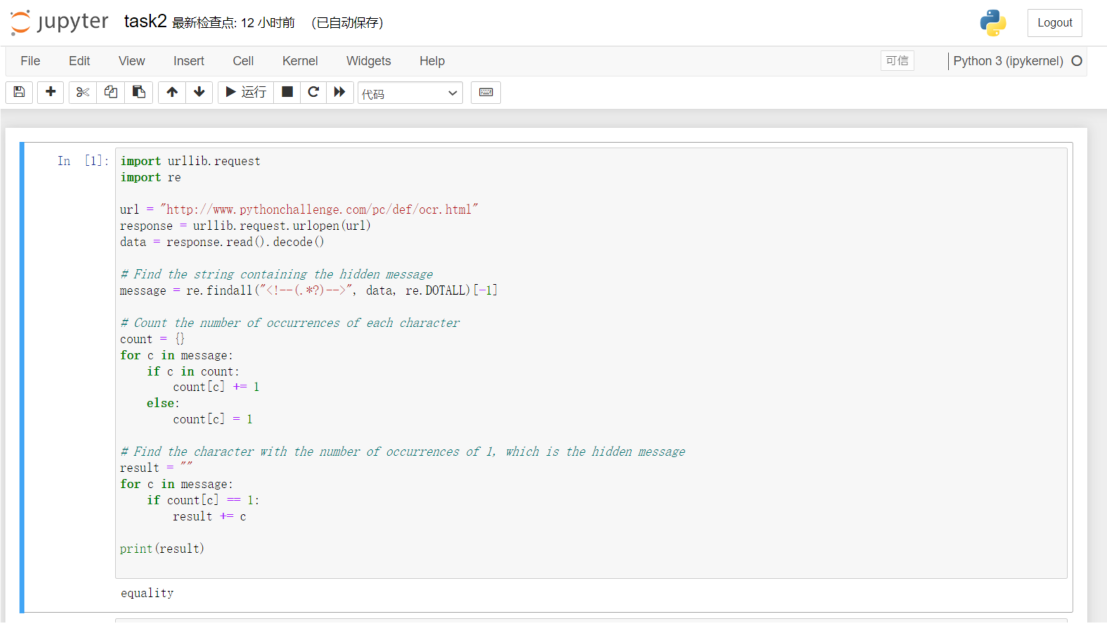
内核正在启动,请等待... 可信
Python 3 (ipykernel)
运行
代码

```
In [1]: # Define the original message string
        message = "g fmnc wms bgblr rpylqjyrc gr zw fylb. rfyrq ufyr amknsrcpq ypc dmp. " \
                  "bmgle gr gl zw fylb gq glcddgagclr ylb rfyr'q ufw rfgq rcvr gq " \
                  "qm jmle. sqgle qrpgle.kyicrpylq() gq pcamkkclbcb. lmu ynnjw ml " \
                  "rfc spj."\
                  "map"

        # Define a function to shift a single character by a given number of positions
        def shift_char(c, n):
            # Define the alphabet as a string of lowercase letters
            alphabet = 'abcdefghijklmnopqrstuvwxyz'
            # If c is not a lowercase letter, return it as-is
            if c not in alphabet:
                return c
            # Otherwise, shift the character by n positions and wrap around if necessary
            shifted_index = (alphabet.index(c) + n) % len(alphabet)
            return alphabet[shifted_index]

        # Define a function to shift a string by a given number of positions
        def shift_string(s, n):
            # Map each character in s to its shifted version and join them into a new string
            return ''.join(shift_char(c, n) for c in s)

        # Shift the original message by two positions to get the translated message
        translated_message = shift_string(message, 2)

        # Print the translated message
        print(translated_message)

        i hope you didnt translate it by hand. thats what computers are for. doing it in by hand is inefficient and that's why this text is so long.
        using string.maketrans() is recommended. now apply on the url.ocr
```


jupyter task2 最新检查点: 12 小时前 (已自动保存)
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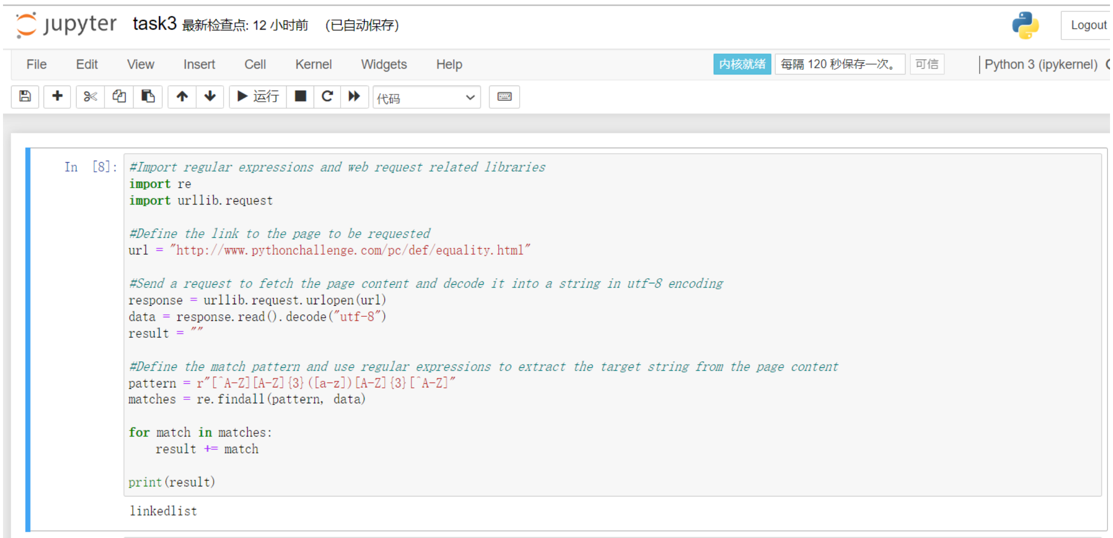
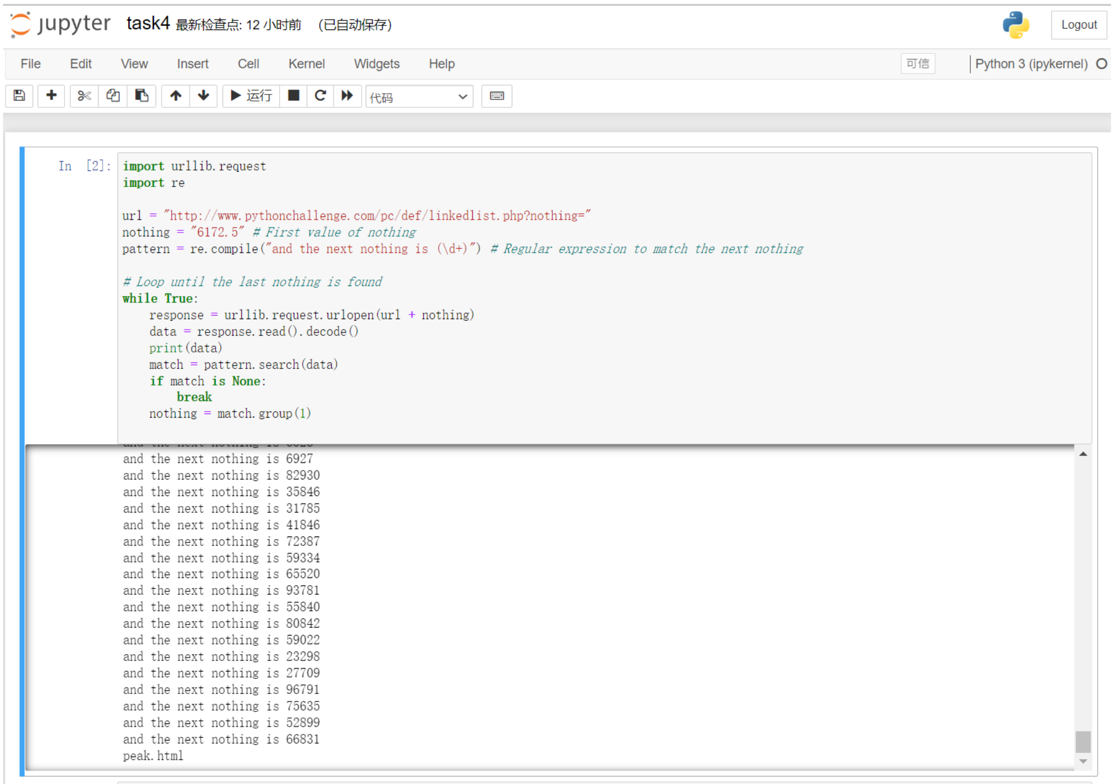
可信
Python 3 (ipykernel)
运行
代码

```
In [1]: import urllib.request
        import re

        url = "http://www.pythonchallenge.com/pc/def/ocr.html"
        response = urllib.request.urlopen(url)
        data = response.read().decode()

        # Find the string containing the hidden message
        message = re.findall("<!--(.*?)-->", data, re.DOTALL)[-1]

        # Count the number of occurrences of each character
        count = {}
        for c in message:
            if c in count:
                count[c] += 1
            else:
                count[c] = 1

        # Find the character with the number of occurrences of 1, which is the hidden message
        result = ""
        for c in message:
            if count[c] == 1:
                result += c

        print(result)

        equality
```



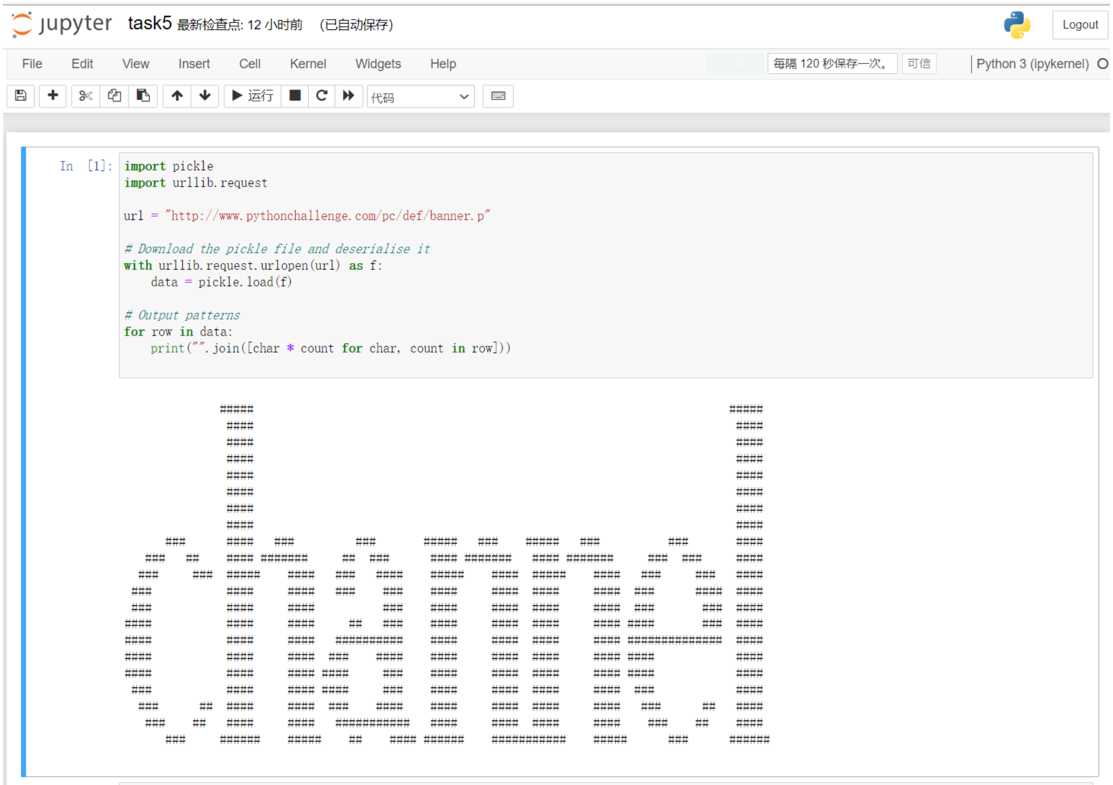
```
#Import regular expressions and web request related libraries
import re
import urllib.request

#Define the link to the page to be requested
url = "http://www.pythonchallenge.com/pc/def/equality.html"

#Send a request to fetch the page content and decode it into a string in utf-8 encoding
response = urllib.request.urlopen(url)
data = response.read().decode("utf-8")
result = ""

#Define the match pattern and use regular expressions to extract the target string from the page content
pattern = r"[^A-Z][A-Z]{3}([a-z])[A-Z]{3}[^A-Z]"
matches = re.findall(pattern, data)

for match in matches:
    result += match

print(result)
```

```
linkedlist
```



```
import urllib.request
import re

url = "http://www.pythonchallenge.com/pc/def/linkedlist.php?nothing="
nothing = "6172.5" # First value of nothing
pattern = re.compile("and the next nothing is (\d+)") # Regular expression to match the next nothing

# Loop until the last nothing is found
while True:
    response = urllib.request.urlopen(url + nothing)
    data = response.read().decode()
    print(data)
    match = pattern.search(data)
    if match is None:
        break
    nothing = match.group(1)
```

```
and the next nothing is 6927
and the next nothing is 82930
and the next nothing is 35846
and the next nothing is 31785
and the next nothing is 41846
and the next nothing is 72387
and the next nothing is 59334
and the next nothing is 65520
and the next nothing is 93781
and the next nothing is 55840
and the next nothing is 80842
and the next nothing is 59022
and the next nothing is 23298
and the next nothing is 27709
and the next nothing is 96791
and the next nothing is 75635
and the next nothing is 52899
and the next nothing is 66831
peak.html
```



```python
import pickle
import urllib.request

url = "http://www.pythonchallenge.com/pc/def/banner.p"

# Download the pickle file and deserialise it
with urllib.request.urlopen(url) as f:
    data = pickle.load(f)

# Output patterns
for row in data:
    print("".join([char * count for char, count in row]))
```

```
              #####                                                                      #####
               ####                                                                       ####
               ####                                                                       ####
               ####                                                                       ####
               ####                                                                       ####
               ####                                                                       ####
               ####                                                                       ####
               ####                                                                       ####
      ###      ####   ###         ###       #####   ###    #####   ###          ###       ####
   ###   ##    #### #######     ##  ###      #### #######   #### #######     ###  ###     ####
  ###     ###  #####    ####   ###   ####    #####    ####  #####    ####   ###     ###   ####
 ###           ####     ####   ###    ###    ####     ####  ####     ####  ###      ####  ####
 ###           ####     ####          ###    ####     ####  ####     ####  ###       ###  ####
####           ####     ####     ##   ###    ####     ####  ####     #### ####       ###  ####
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      ###     ######    #####    ##    #### ######   ###########    #####      ###      ######
```
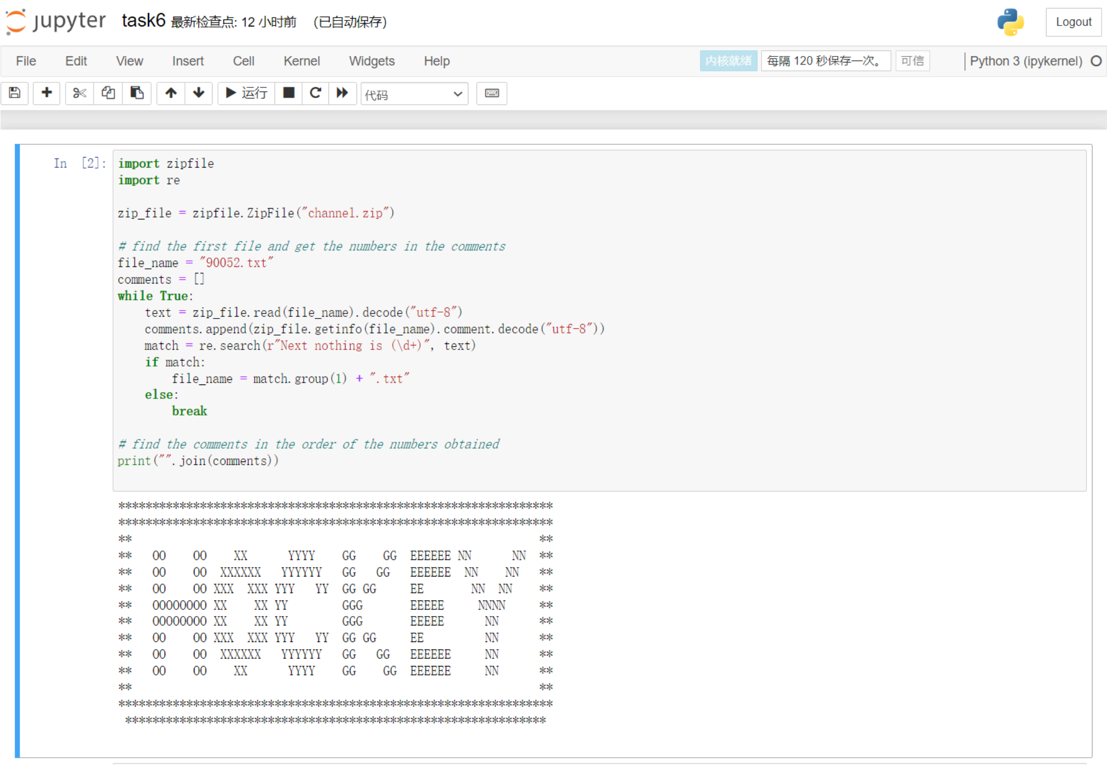
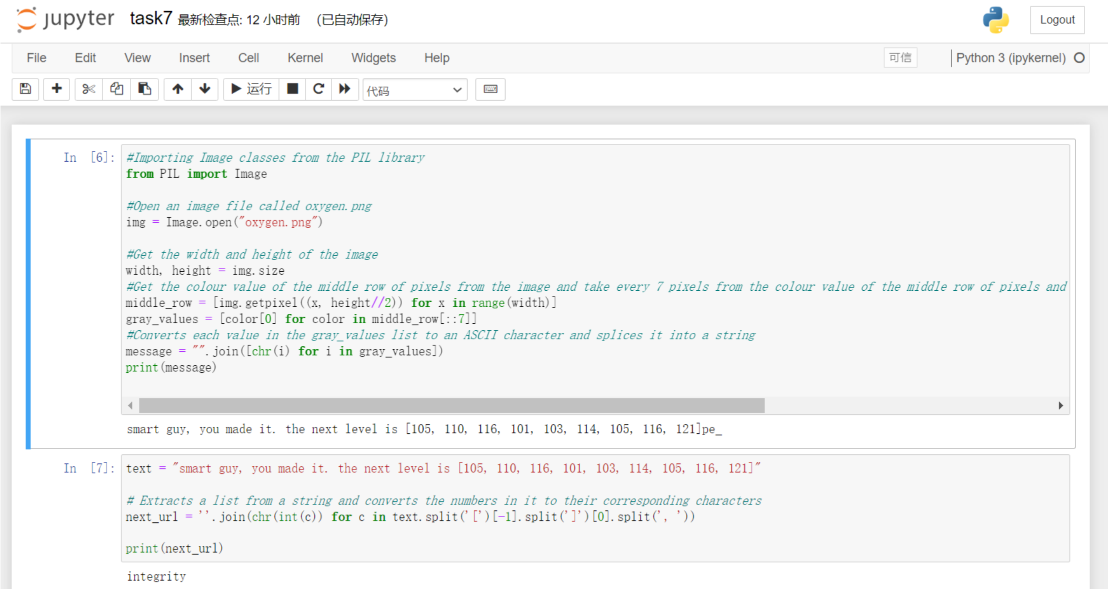



```python
import zipfile
import re

zip_file = zipfile.ZipFile("channel.zip")

# find the first file and get the numbers in the comments
file_name = "90052.txt"
comments = []
while True:
    text = zip_file.read(file_name).decode("utf-8")
    comments.append(zip_file.getinfo(file_name).comment.decode("utf-8"))
    match = re.search(r"Next nothing is (\d+)", text)
    if match:
        file_name = match.group(1) + ".txt"
    else:
        break

# find the comments in the order of the numbers obtained
print("".join(comments))
```

```
****************************************************************
****************************************************************
**                                                            **
**   OO    OO    XX      YYYY    GG    GG  EEEEEE NN      NN  **
**   OO    OO  XXXXXX   YYYYYY   GG   GG   EEEEEE  NN    NN   **
**   OO    OO XXX  XXX YYY   YY  GG GG     EE       NN  NN    **
**   OOOOOOOO XX    XX YY        GGG       EEEEE     NNNN     **
**   OOOOOOOO XX    XX YY        GGG       EEEEE      NN      **
**   OO    OO XXX  XXX YYY   YY  GG GG     EE         NN      **
**   OO    OO  XXXXXX   YYYYYY   GG   GG   EEEEEE     NN      **
**   OO    OO    XX      YYYY    GG    GG  EEEEEE     NN      **
**                                                            **
****************************************************************
 **************************************************************
```



In [6]:

```
#Importing Image classes from the PIL library
from PIL import Image

#Open an image file called oxygen.png
img = Image.open("oxygen.png")

#Get the width and height of the image
width, height = img.size
#Get the colour value of the middle row of pixels from the image and take every 7 pixels from the colour value of the middle row of pixels and
middle_row = [img.getpixel((x, height//2)) for x in range(width)]
gray_values = [color[0] for color in middle_row[::7]]
#Converts each value in the gray_values list to an ASCII character and splices it into a string
message = "".join([chr(i) for i in gray_values])
print(message)
```

```
smart guy, you made it. the next level is [105, 110, 116, 101, 103, 114, 105, 116, 121]pe_
```

In [7]:

```
text = "smart guy, you made it. the next level is [105, 110, 116, 101, 103, 114, 105, 116, 121]"

# Extracts a list from a string and converts the numbers in it to their corresponding characters
next_url = ''.join(chr(int(c)) for c in text.split('[')[-1].split(']')[0].split(', '))

print(next_url)
```

```
integrity
```