Python Assignment 1:

Q1. What is JPython & CPython?

Ans: JPython is an implementation of the high-level, dynamic, object-oriented language Python seamlessly integrated with the Java platform.

CPython can be defined as both an interpreter and a compiler as it compiles Python code into bytecode before interpreting it.

Q2. What is the basic difference between python 2 and python 3?

Ans: **Python 2** stores need to define Unicode string value with "u." whereas **Python 3** default storing of strings is Unicode.

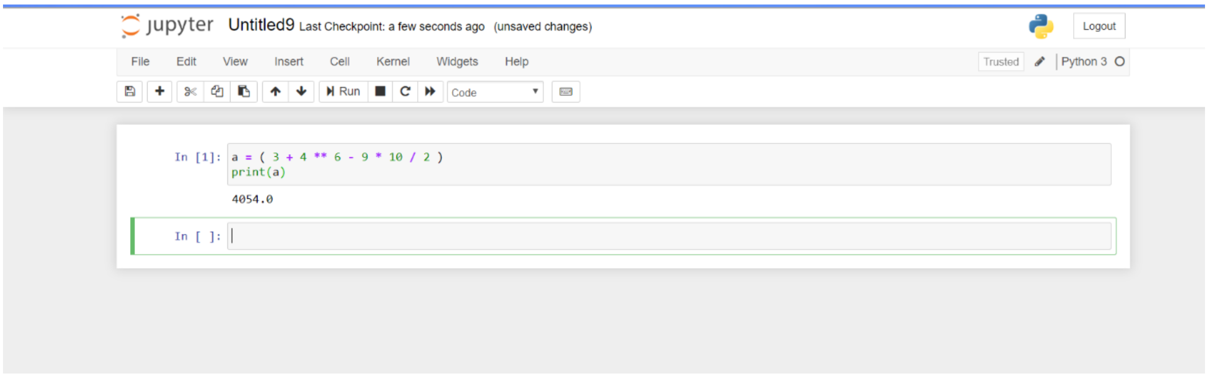
Python 2 syntax is difficult to interstand whereas **Python 3** syntax **is** simpler and easily understandable.

Q3. Difference between ASCII & Unicode?

Ans: ASCII uses 7-bits to encode each character whereas Unicode uses variable bit encoding program where we can choose between 32, 16, and 8-bit encodings.

Python assignment 2

Q1. What should be the output? (3 + 4 ** 6 - 9 * 10 / 2)?

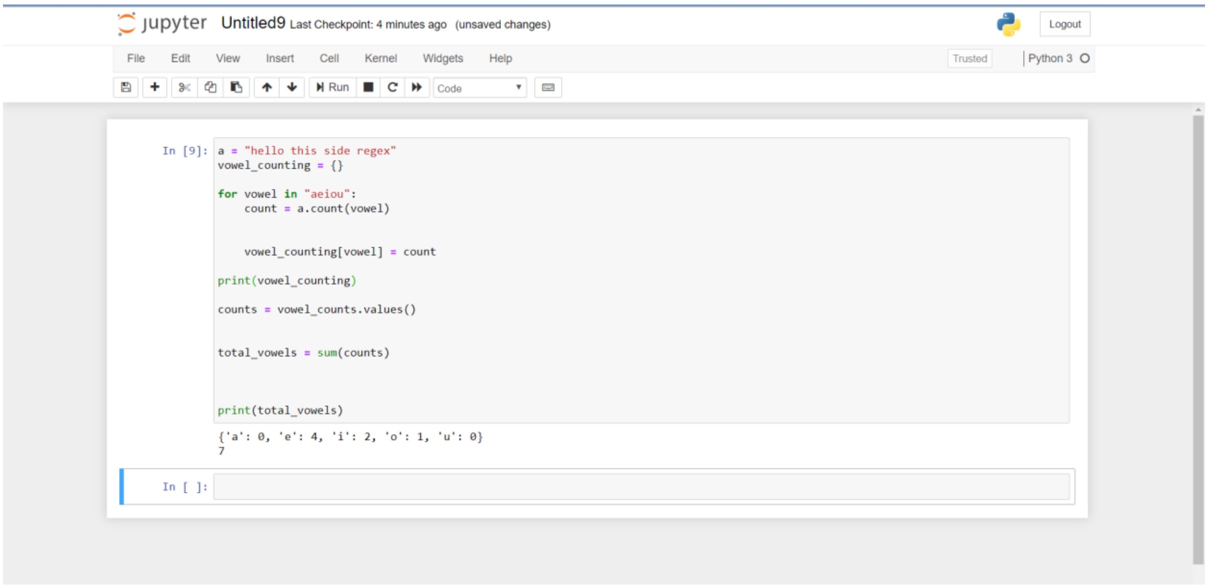


```
In [1]: a = ( 3 + 4 ** 6 - 9 * 10 / 2 )
        print(a)

        4054.0

In [ ]:
```

Q2. Let say I have, some string "hello this side regex"

● Find out the count of the total vowels

○ vowels - ['a','e','i','o','u']

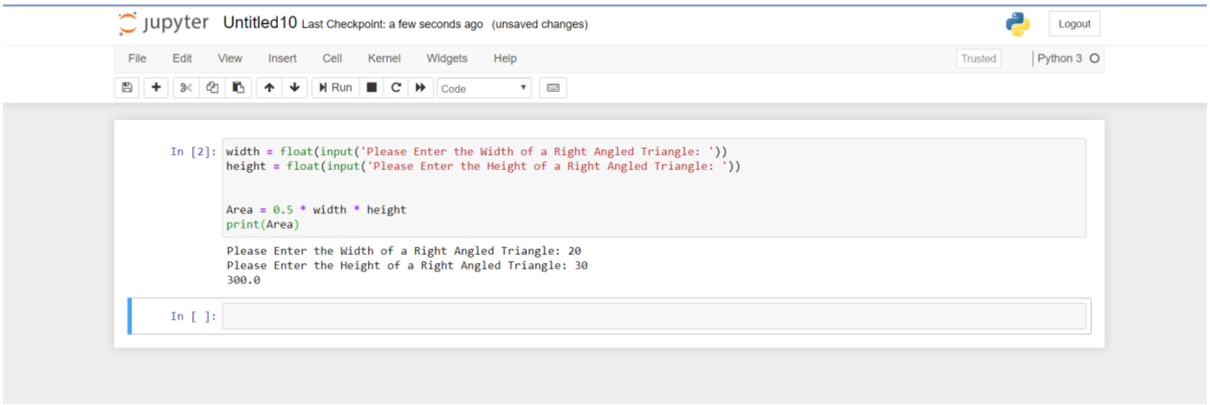


```
In [9]: a = "hello this side regex"
        vowel_counting = {}

        for vowel in "aeiou":
            count = a.count(vowel)


            vowel_counting[vowel] = count

        print(vowel_counting)

        counts = vowel_counts.values()


        total_vowels = sum(counts)



        print(total_vowels)

        {'a': 0, 'e': 4, 'i': 2, 'o': 1, 'u': 0}
        7

In [ ]:
```

Q3. Find out the area of triangle

- 1/2 * b * h (formula of area)

- You have to take value from user about the base, & the height

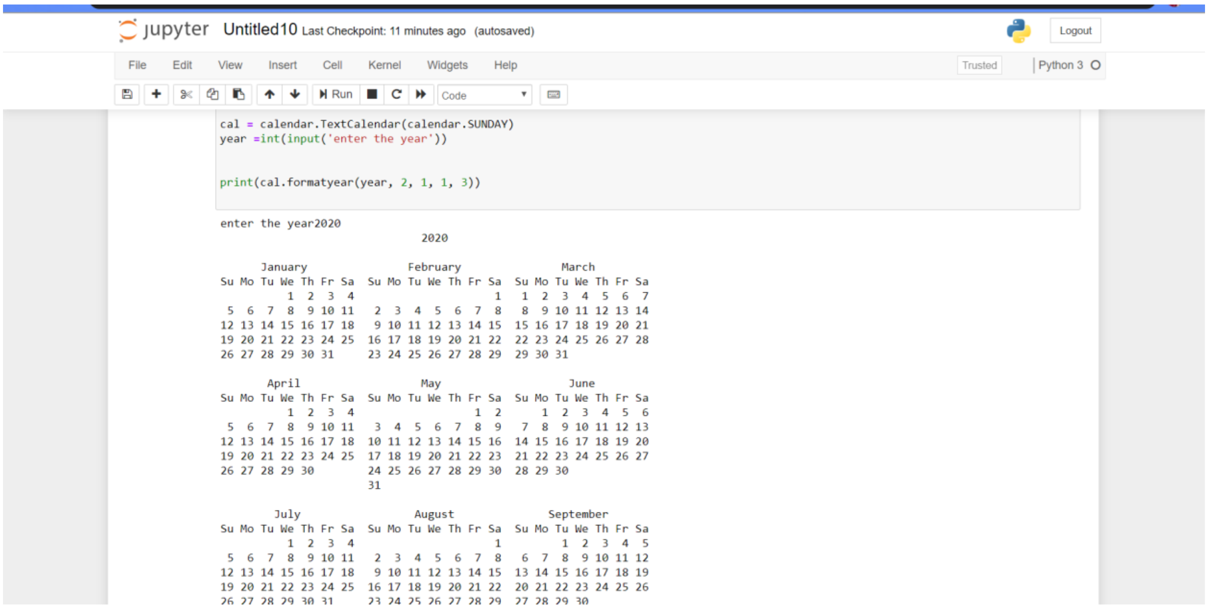

jupyter Untitled10 Last Checkpoint: a few seconds ago (unsaved changes)
Logout
File Edit View Insert Cell Kernel Widgets Help
Trusted
Python 3
Run
Code

```
In [2]: width = float(input('Please Enter the Width of a Right Angled Triangle: '))
        height = float(input('Please Enter the Height of a Right Angled Triangle: '))


        Area = 0.5 * width * height
        print(Area)

        Please Enter the Width of a Right Angled Triangle: 20
        Please Enter the Height of a Right Angled Triangle: 30
        300.0

In [ ]:
```

Q4. Print the calendar on the terminal. If you give the year.

- Allow the user to input the year.

- Then should that calendar of that year


jupyter Untitled10 Last Checkpoint: 11 minutes ago (autosaved)
Logout
File Edit View Insert Cell Kernel Widgets Help
Trusted
Python 3
Run
Code

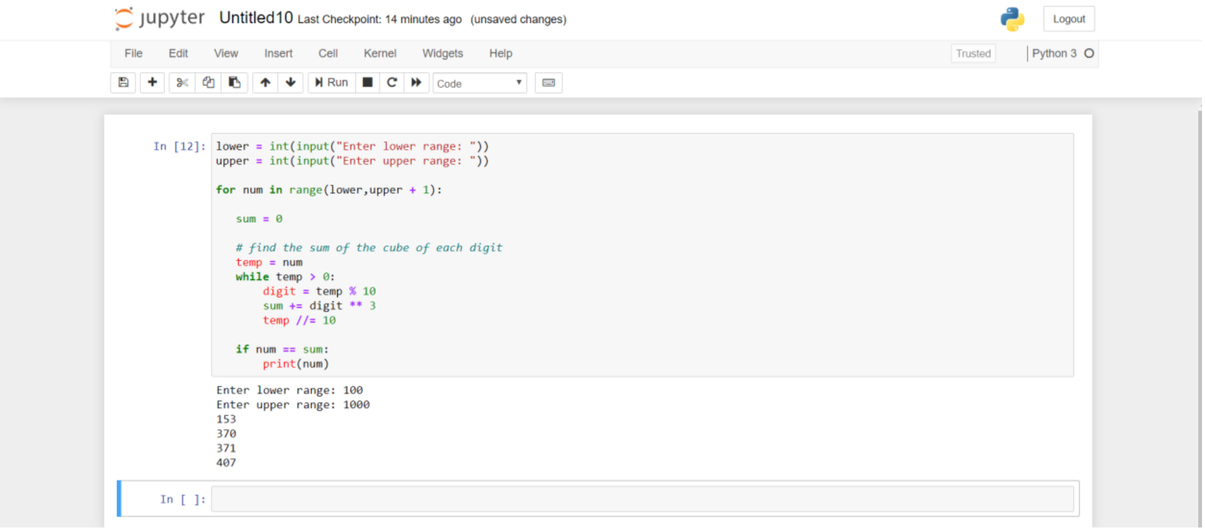
```
cal = calendar.TextCalendar(calendar.SUNDAY)
year =int(input('enter the year'))


print(cal.formatyear(year, 2, 1, 1, 3))
```

```
enter the year2020
                             2020

      January              February             March
Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa
          1  2  3  4                    1  1  2  3  4  5  6  7
 5  6  7  8  9 10 11  2  3  4  5  6  7  8  8  9 10 11 12 13 14
12 13 14 15 16 17 18  9 10 11 12 13 14 15 15 16 17 18 19 20 21
19 20 21 22 23 24 25 16 17 18 19 20 21 22 22 23 24 25 26 27 28
26 27 28 29 30 31    23 24 25 26 27 28 29 29 30 31

       April                 May                  June
Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa
          1  2  3  4                 1  2     1  2  3  4  5  6
 5  6  7  8  9 10 11  3  4  5  6  7  8  9  7  8  9 10 11 12 13
12 13 14 15 16 17 18 10 11 12 13 14 15 16 14 15 16 17 18 19 20
19 20 21 22 23 24 25 17 18 19 20 21 22 23 21 22 23 24 25 26 27
26 27 28 29 30       24 25 26 27 28 29 30 28 29 30
                     31

        July                August             September
Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa
          1  2  3  4                    1        1  2  3  4  5
 5  6  7  8  9 10 11  2  3  4  5  6  7  8  6  7  8  9 10 11 12
12 13 14 15 16 17 18  9 10 11 12 13 14 15 13 14 15 16 17 18 19
19 20 21 22 23 24 25 16 17 18 19 20 21 22 20 21 22 23 24 25 26
26 27 28 29 30 31    23 24 25 26 27 28 29 27 28 29 30
```

Python Assignment 3

Q1. Find the Armstrong Number between the two numbers which are input by user

○ Armstrong number : 153 -> 1*1*1 + 5*5*5 + 3*3*3



In [12]:

```
lower = int(input("Enter lower range: "))
upper = int(input("Enter upper range: "))

for num in range(lower,upper + 1):

   sum = 0

   # find the sum of the cube of each digit
   temp = num
   while temp > 0:
       digit = temp % 10
       sum += digit ** 3
       temp //= 10

   if num == sum:
       print(num)
```

```
Enter lower range: 100
Enter upper range: 1000
153
370
371
407
```

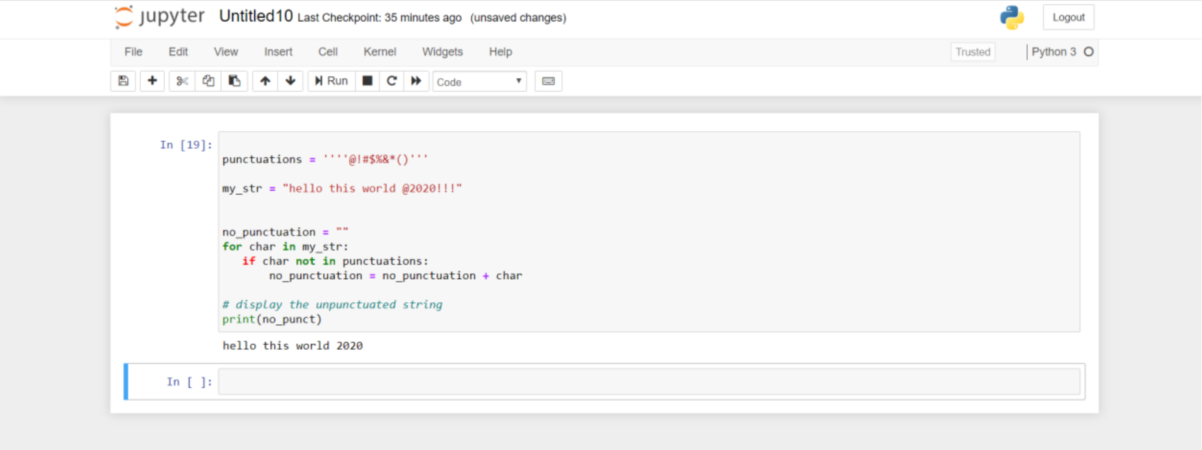
In [ ]:

Q2. Let’s say you have a string “hello this world @2020!!! ”

○ Remove the punctuation like [“@!#$%&*()”] from the string

■ Final output should be without the punctuation

● “hello this world 2020”



In [19]:

```

punctuations = ''''@!#$%&*()'''

my_str = "hello this world @2020!!!"


no_punctuation = ""
for char in my_str:
   if char not in punctuations:
       no_punctuation = no_punctuation + char

# display the unpunctuated string
print(no_punct)
```

```
hello this world 2020
```

In [ ]: