MyCES Coding Interview
(Full-Stack Developer)

Code can be written in any language. Submit the code through a zip file or github link.

After submission, a code review will be held as the final stage of the interview

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1) Logic / Problem Solving

A Pythagorean triplet is a set of three natural numbers, a < b < c, for which,
a2 + b2 = c2
For example, 32 + 42 = 9 + 16 = 25 = 52.

There exists exactly one Pythagorean triplet for which a + b + c = 1000.
Find the product abc.

Answer:

```
In [9]:    1  def wowo():
           2      for a in range(1, 1000):
           3          for b in range(a, 1000 - a):
           4              c = 1000 - a - b
           5              if a**2 + b**2 == c**2:
           6                  print("a =", a, ", b =", b, ", c =", c)
           7                  product = a * b * c
           8                  print("Answer", product)
           9                  return
          10
          11
          12  wowo()

a = 200 , b = 375 , c = 425
Answer 31875000
```

2) Data Manipulation

Given an array, rotate the array to the right by k steps, where k is non-negative.

Example 1:
```
Input: nums = [1,2,3,4,5,6,7], k = 3
Output: [5,6,7,1,2,3,4]
Explanation:
rotate 1 steps to the right: [7,1,2,3,4,5,6]
rotate 2 steps to the right: [6,7,1,2,3,4,5]
rotate 3 steps to the right: [5,6,7,1,2,3,4]
```

Example 2:
```
Input: nums = [-1,-100,3,99], k = 2
Output: [3,99,-1,-100]
```

Explanation:
```
rotate 1 steps to the right: [99,-1,-100,3]
rotate 2 steps to the right: [3,99,-1,-100]
```

Follow up

Here are some example code but it's not complete. You may use it or come up with a new and better solution.

```
let nums = [1,2,3,4,5,6,7]
let k = 3
for(i=0;i<k;i++){
    let temps = nums[nums.length]
      for(j=nums.length;j>0;j--){
          nums[j]=nums[j]
          if(j==1){
                nums[0]=temps
          }
      }
     console.log(nums);
}
```

Answer:

```
In [14]:   1  def rotate(nums, k):
           2      n = len(nums)
           3      k = k % n
           4
           5      nums[:] = nums[-k:] + nums[:-k]
           6
           7  # Exp:
           8  nums1 = [1, 2, 3, 4, 5, 6, 7]
           9  k1 = 3
          10  rotate(nums1, k1)
          11  print("num1",nums1)
          12
          13  nums2 = [-1, -100, 3, 99]
          14  k2 = 2
          15  rotate(nums2, k2)
          16  print("num2",nums2)
          17

num1 [5, 6, 7, 1, 2, 3, 4]
num2 [3, 99, -1, -100]
```

3) Complete Project (Don't try too hard, just do what you can.)

Develop a To-Do List webpage using any language and any stack.
The page should be able to add an item, read all item list, delete item and mark the item as completed. The item should persist on page refresh.

Page is intended for 1 user only.

Development of the backend is optional, but encouraged.

No Backend : HTML + JS + Storage
Easy stack : HTML + JS + CSS + PHP + MySQL
Challenge Stack : Vue3 + NestJS + TypeORM

Output For No backend :

To-Do List

| New task... | | Add |

8:00 a.m : Basuh Pinggan — Delete

9:00 a.m. : Sidai Baju — Delete

10:00 : Vaccum Rumah — Delete

#comments
-The data should stay after refresh as it should be with simple storage without a backend.

-The coding of this in the **zipped file**.

-For now, I didn't know much about PHP + MySQL

 -i used Visual studio Code, I didnt used vue