EAST TechSprint Log:

Use this document to log your work for the TechSprint period. Remember, your log should reflect adequate effort to achieve growth in the skills you are learning. This work is to be done **in addition** to any work that you are doing or skills you are developing for your EAST Project (although the work can be complementary). Each log entry should follow the following format:

- Date
- Description of learning goal or task
- Link to tutorial resource(s)
- Example of **your work** based on the tutorial and goals (screenshot preferred), embedded in this document
- Reflection on what you learned, challenges or other important elements

This log will be due by 11:59 PM on the Sunday following the TechSprint period.

Date: 4/27-4/28
Task: Learning how to solve a real-life problem using a two-dimensional array in python

Writing a program that calculates the area of the region where color papers are attached

- There is a white paper whose length and width are both 100. On this paper, a person attaches color papers whose length and width are both 10. Their sides will be parallel to the white paper. Color papers might be overlapped. Find the area where color papers are attached.

Link to resource:

- https://edu.goorm.io/learn/lecture/554/%EC%95%8C%EA%B3%A0%EB%A6%AC%EC%A6%98-%EB%AC%B8%EC%A0%9C%ED%95%B4%EA%B2%B0%EA%B8%B0%EB%B2%95-%EC%9E%85%EB%AC%B8/lesson/25954/%EB%AC%B8%EC%A0%9C3e-%EC%83%89%EC%A2%85%EC%9D%B4
- https://dpdpwl.tistory.com/88
- https://pydole.tistory.com/entry/Python-index-%ED%95%A8%EC%88%98-%EB%B0%B0%EC%97%B4%EC%97%90%EC%84%9C-%EC%9B%90%ED%95%98%EB%8A%94-%EA%B0%92%EC%9D%98-%EC%9C%84%EC%B9%98-%EC%B0%BE%EA%B8%B0
- https://github.com/dongyi-kim/IntroductionToAlgorithmProblemSolvingTechniques/blob/master/Chapter03/Problem03E/solution.cpp

```
t = int(input())

for z in range(t):
  n = int(input())
  data = []
  for x in range(101):
    for y in range(101):
      data.append([x,y,0])

  for i in range(n):
    a, b = map(int, input().split())

    dx = a
    for j in range(10):
      dy = b
      for k in range(10):

        pair = [dx, dy, 1]
        idx = dx*101 + dy
        data[idx] = pair
        if dy < 100:
          dy += 1
        else:
          break
      if dx < 100:
        dx += 1
      else:
        break

  answer = 0
  for p in range(10201):
    if data[p][2] == 1:
      answer += 1

  print(answer)
```

Reflection:

When solving problems of finding areas, it is efficient to create a two-dimensional array.
When creating a space, it is important to create a list that contains lists in it.
When finding areas created by overlapping, it is easier to create a two-dimensional coordinate plane and then fill them with a certain number to determine whether the space between specifically ordered pairs is filled or not.

Date: 4/28
Task: Learning how to solve a problem requiring the addition of consecutive numbers in a region
Link to Resource:

- https://edu.goorm.io/learn/lecture/554/%EC%95%8C%EA%B3%A0%EB%A6%AC%EC%A6%98-%EB%AC%B8%EC%A0%9C%ED%95%B4%EA%B2%B0%EA%B8%B0%EB%B2%95-%EC%9E%85%EB%AC%B8/lesson/25964/%EB%AC%B8%EC%A0%9C3f-%EA%B3%BC%EC%9C%A0%EB%B6%88%EA%B8%89
- https://emilkwak.github.io/python-2d-list-certain-column
- https://www.google.com/search?client=firefox-b-1-d&q=python+null
- https://github.com/dongyi-kim/IntroductionToAlgorithmProblemSolvingTechniques/blob/master/Chapter03/Problem03F/solution.cpp

```python
n, m = map(int, input().split())
cards = list(map(int,input().split()))



max_point = 0
this_fan = 0
for x in range(m):
  fan = x + 1
  l,r = map(int, input().split())


  point = 0
  for i in range(l-1, r):
    point += cards[i]

  if fan == 1:
    max_point = point
    this_fan = fan

  elif this_fan != 0 and point > max_point:
    max_point = point
    this_fan = fan


print(this_fan, max_point)
```

Reflection:

There is no null in python. Python uses “None” when expressing a variable or a list is null.
When adding certain consecutive numbers given, for-loop makes it easier by making its code simple.

Date: 4/29
Task: Learning how to access and calculate the information of the changing range
Link to Resource:

- https://edu.goorm.io/learn/lecture/554/%EC%95%8C%EA%B3%A0%EB%A6%AC%EC%A6%98-%EB%AC%B8%EC%A0%9C%ED%95%B4%EA%B2%B0%EA%B8%B0%EB%B2%95-%EC%9E%85%EB%AC%B8/lesson/25965/%EB%AC%B8%EC%A0%9C3g-%ED%8C%AC%EB%AF%B8%ED%8C%85
- https://www.codegrepper.com/code-examples/python/python+file+main++out

```
n,k = map(int, input().split())
data = list(map(int, input().split()))

result = n-k+1
for i in range(n-k+1):
  for j in range(i+1, i+k):
    if data[i] == data[j]:
      result -= 1
      break
print(result)
```

Reflection:
When adding the consecutive k numbers from n numbers in total, its possibility is n-k+1.
When there is a syntax error, it is recommended to check any missing parentheses or colons.
The python order “break” stops the loop running and skips the turn.

Date: 4/30
Task: Learning how to make a program that calculates the number of cases that meets the given conditions

- Janice is in charge of deciding numbers that will be used for the lottery this week. She wants to determine whether or not each set of numbers has any possibilities to win. From the given numbers, determine whether it is possible to make the winning numbers by calculating each set of numbers.

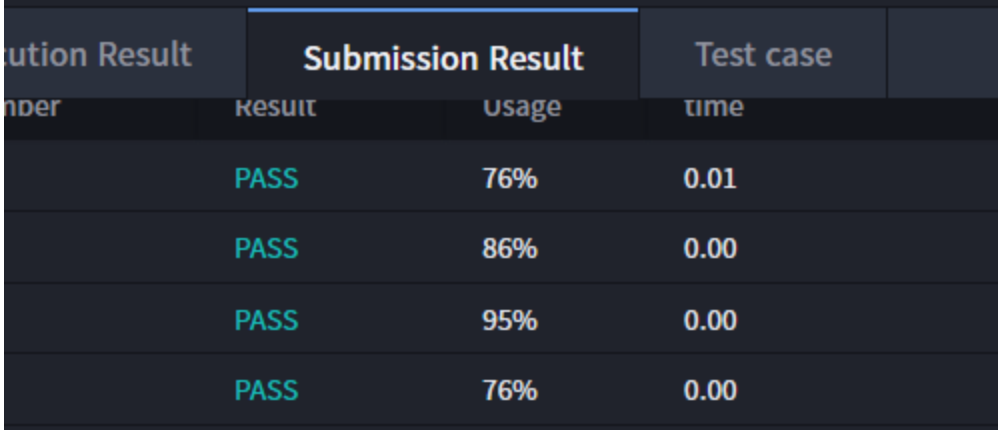
Link to resource:

- https://edu.goorm.io/learn/lecture/554/%EC%95%8C%EA%B3%A0%EB%A6%AC%EC%A6%98-%EB%AC%B8%EC%A0%9C%ED%95%B4%EA%B2%B0%EA%B8%B0%EB%B2%95-%EC%9E%85%EB%AC%B8/lesson/26221/%EB%AC%B8%EC%A0%9C3h-%EB%91%90-%EC%B9%B4%EB%93%9C

```python
n, m = map(int, input().split())
data_1 = list(map(int, input().split()))
data_2 = list(map(int, input().split()))

result = 0
ok_num = []
for i in range(n):
    for j in range(n):
        if data_1[i] + data_1[j] in data_2:
            if data_1[i] + data_1[j] not in ok_num:
                result += 1
            ok_num.append(data_1[i] + data_1[j])

print(result)
```



Reflection:
When determining whether the number is already counted or not, it is efficient to create a list and save certain numbers as a controlled list.

When approaching each value by slicing its position in a list, it is possible to use those values to use it as a number, not a list nor a variable.