Computer Science Team Week 6

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Computer Science Team
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DO ASCL PROGRAMMING PROBLEM!!!

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How was ACSL?

Thoughts? Questions? Feedbacks?

Advent of code soon!

https://adventofcode.com/

Fun coding problems

Theme: Don’t Look Down!

Problem Winner

Problem Winner You want to predict Gimkit: Don't Look Down winners. Given *players*, a list of tuples that contain 1) the current height of each player (from 0 to 1000) and 2) that player's average height increase per second, predict the winning player and return their index.

```
def get_winner(
    players: list[tuple[float, float]]
) -> int
```

Problem Winner

Example

```
assert get_winner([
    (999, 0),
    (21, 1),
]) = 1
```

Problem Clutch

Problem Clutch Oh no, you've fallen off the last platform (from 1000 meters)! Luckily, you have *platforms*, a list containing the x and y position of every platform below you (each platform is a 1x1 meter square). Assuming you can move left and right at 1 m/s and are falling at a terminal velocity of 10 m/s down, return the y position of the highest platform you can land on.

```
def clutch(
    platforms: list[tuple[int, int]]
) -> int
```

Problem Clutch

Example

```
assert clutch(
    [(2000, 1000), (-2000, 900), (19, 800)]
) == 800
```

Problem TAS

Problem TAS Given *platforms*, a list of tuples containing the x and y position of 1x1 meter platforms, find the least amount of jumps needed to get from the first platform to the last platform. You can jump 2 meters high and move 1 meter in the x direction in 1 second.

```
def least_jumps(
    platforms: list[tuple[int, int]]
) -> int
```

Problem TAS

Example

```
assert least_jumps([
    (0, 0),
    (1231245124, 456765456654)
    (1, 2),
    (0, 3)
]) == 2
```

The End

Questions? Comments? Remarks?
Considerations? Confusions?