



```
print( """
```



SPOILER ALERT



SOLUTIONS AHEAD



```
""")
```



```
# Day one
```

```
### Part one
```

```
with open('inputs/dayone.txt') as f:  
    calorie_input = f.read().split('\n\n')  
  
elves = []  
for calories in calorie_input:  
    elves.append(sum([int(calorie) for calorie in calories.split('\n')]))  
  
print(max(elves))  
  
#### Part two  
  
print(sum(sorted(elves, reverse=True)[:3]))
```



```
# Day two
```

```
### part one
```

```
with open('inputs/daytwo.txt') as f:
    moves = f.read().split('\n')
    round_inputs = [move.split() for move in moves]
```

```
def calculate_points(their_move, your_move):
    their_move_points = point_mapper[their_move]
    your_move_points = point_mapper[your_move]
```

```
    action = [their_move, your_move]
```

```
    if their_move == your_move:
        their_result = your_result = 'draw'
```

```
    elif action in your_winning_actions:
        your_result, their_result = 'win', 'lose'
```

```
    elif action not in your_winning_actions:
        their_result, your_result = 'win', 'lose'
```

```
    their_round_points = point_mapper[their_result]
    your_round_points = point_mapper[your_result]
```

```
    return (
        their_move_points + their_round_points,
        your_move_points + your_round_points
    )
```

Day two

part one continued...

```
point_mapper = {
    'rock': 1,
    'paper': 2,
    'scissors': 3,
    'lose': 0,
    'win': 6,
    'draw': 3
}
```

```
move_mapper = {
    'A': 'rock',
    'B': 'paper',
    'C': 'scissors',
    'X': 'rock',
    'Y': 'paper',
    'Z': 'scissors',
}
```

```
your_winning_actions = [
    ['rock', 'paper'],
    ['paper', 'scissors'],
    ['scissors', 'rock']
]
```


```
their_total_points = 0
your_total_points = 0
```

```
for round_ in round_inputs:
    their_move = move_mapper[round_[0]]
    your_move = move_mapper[round_[1]]

    their_round_points, your_round_points = calculate_points(
        their_move, your_move
    )

    your_total_points += your_round_points
    their_total_points += their_round_points

print(your_total_points)
```



```
# Day two
```

```
### part two
```

```
round_decider = {
    'scissors': {
        'X': 'paper',
        'Y': 'scissors',
        'Z': 'rock'
    },
    'rock': {
        'X': 'scissors',
        'Y': 'rock',
        'Z': 'paper'
    },
    'paper': {
        'X': 'rock',
        'Y': 'paper',
        'Z': 'scissors'
    }
}

their_total_points = 0
your_total_points = 0
for round_ in round_inputs:
    their_move = move_mapper[round_[0]]
    your_move = round_decider[move_mapper[round_[0]]][round_[1]]

    their_round_points, your_round_points = calculate_points(
        their_move, your_move
    )

    your_total_points += your_round_points
    their_total_points += their_round_points

print(your_total_points)
```



```
# Day three
```

```
### part one
```

```
with open('./inputs/daythree.txt', 'r') as f:  
    input_items = f.read().split('\n')
```

```
points = {  
    **{chr(i):n+1 for n,i in enumerate(range(ord('a'),ord('z')+1))},  
    **{chr(i):n+27 for n,i in enumerate(range(ord('A'),ord('Z')+1))}  
}
```

```
total_points = []  
for n,item in enumerate(input_items):  
    comp_one = item[:int(len(item)/2)]  
    comp_two = item[int(len(item)/2):]  
    overlap = set(comp_one).intersection(comp_two)  
    if overlap:  
        priority = overlap.pop()  
        total_points.append(points[priority])
```

```
print(sum(total_points))
```

```
### part two
```

```
def chunks(xs, n):  
    n = max(1, n)  
    return (xs[i:i+n] for i in range(0, len(xs), n))
```

```
total_points = []  
for groups in list(chunks(input_items, 3)):  
    group_badge = set(  
        groups[0]  
    ).intersection(  
        set(groups[1])  
    ).intersection(groups[2])  
  
    total_points.append(points[group_badge.pop()])  
print(sum(total_points))
```



Day 4

part one

```
with open('./inputs/dayfour.txt', 'r') as f:
    input_items = [i.split(',') for i in f.read().split('\n')]

def apply_conditionals(conditionals1, conditionals2, operator="all"):
    if eval(operator)(conditionals1) or eval(operator)(conditionals2):
        return 1
    else:
        return 0

def main(input_items, operator="any"):
    counter = 0
    for n, assignments in enumerate(input_items):
        assignment1 = [int(i) for i in assignments[0].split('-')]
        assignment2 = [int(i) for i in assignments[1].split('-')]

        sections1 = list(range(assignment1[0], assignment1[1]+1))
        sections2 = list(range(assignment2[0], assignment2[1]+1))

        returned_counter = apply_conditionals(
            [sections2[0] in sections1, sections2[-1] in sections1],
            [sections1[0] in sections2, sections1[-1] in sections2],
            operator=operator
        )

        counter += returned_counter

    return counter

print(main(input_items, "all"))

# part two: change to any
print(main(input_items, "any"))
```