# Greed game

Greed is a dice game played with five six-sided dice. Your mission, should you choose to accept it, is to score a throw according to these rules. You will always be given an array with five six-sided dice values.

```
Three 1's => 1000 points
Three 6's =>  600 points
Three 5's =>  500 points
Three 4's =>  400 points
Three 3's =>  300 points
Three 2's =>  200 points
One   1   =>  100 points
One   5   =>   50 point
```

A single die can only be counted once in each roll. For example, a given "5" can only count as part of a triplet (contributing to the 500 points) or as a single 50 points, but not both in the same roll.

Example scoring

```
 Throw        Score
 ---------    ------------------
 5 1 3 4 1    250:  50 (for the 5) + 2 * 100 (for the 1s)
 1 1 1 3 1    1100: 1000 (for three 1s) + 100 (for the other
1)
 2 4 4 5 4    450:  400 (for three 4s) + 50 (for the 5)
```

instantiate score variable and a empty set

iterate through the array, add to set, and if number exists in set then add to counter

if counter = 3 then add to score

```
def score(dice):
   sum = 0
   counter = [0,0,0,0,0,0]
   points = [1000, 200, 300, 400, 500, 600]
   extra = [100,0,0,0,50,0]
   for die in dice:
     counter[die-1] += 1

   for (i, count) in enumerate(counter):
     sum += (points[i] if count >= 3 else 0) + extra[i] * (count%

   return sum
```

this code initialised a sum variable

an array for counter, points and extra

he then iterated every item in dice

its pretty smart, using a for index loop that iterates through, and it also matches the index of the arrays

```
def score(dice):
   score = 0
   ret = {i: 0 for i in range(1,7)}
```

```
    for i in dice:
        ret[i] += 1


    if ret[1] >= 3:
        score += 1000
        ret[1] -= 3

    for i in range(2,7):
        if ret[i] >= 3:
            score += i * 100
            ret[i] -= 3

    score += ret[1] * 100
    score += ret[5] * 50


    return score
```

write some notes on this

this uses a set, initalises the set by creating empty key-value pairs from 1 to 7 (basically 1, 6)

iterates through the dice list and adds +1 to the same key

then a score calculation