Project Algorithm

Department : 스마트기기공학전공
ID : 18011809
Name : 엄민지

Preject algorithm (ver.Server)

Make digit for answer and guessing digit

1. Function for digit randomly when creating or guessing digit for the correct answer
- Randomly pick the numbers from 1 to 9, and if they are not already in the answer, put them into answer, and if they are already in, randomly pick them again. Also, if except_num that is definitely not in opponent's digit contains a number that is picked, it is selected randomly again.

```python
def make_digit(except_num):
    answer = []
    num = random.randrange(1,10)
# = [i for i in b if i not in a]
    for i in range(0,3):
        while ((num in answer) | (num in except_num)) :
            num = random.randrange(1,10)
        answer.append(num)

    return answer
```

2. Except for 3ball, I makes digit as I was. Or it use a fuction that is used when it is 3 balls

```python
if(fr_score[1]==3):
    done_digit,guess = digit_3ball(done_digit,guess)
    guess_num = make_msg(guess,to_score)
else:
    guess = make_digit(except_num)
    guess_num = make_msg(guess,to_score)
```

- If got 3balls, put the number in done_digit and repeat it by length of the number you've already done, and return it. if it's not the number you've already printed, return it. or use the make_3ball_digit to mix numbers and return them.

```python
def digit_3ball(done_digit,original):
    done_digit.append(original)
    for i in range(0,len(done_digit)):
        k = check_3ball_digit(done_digit[i])
        if(k==1):
            continue
        else:
            return done_digit,k
    return done_digit,make_3ball_digit(original)
def make_3ball_digit(original):
    random.shuffle(original)
    return original
def check_3ball_digit(original):
    result = []
    result = make_3ball_digit(original)
    if result == original:
        return 1
    else:
        return result
```

3. If there is no ball & no strike, save the digit we sent

```python
if ((fr_score[0] == 0) & (fr_score[1] == 0)&(cnt != 1 )):
    for i in range(0,3):
        except_num.append(guess[i])
```