Lab 2 Task 2: Become familiar with class *NumberGameCheck* Solution

2) Become familiar with class *NumberGame*

1. What attribute stores the players of the game?

    - The players of the game are stored in instance attribute *players*.

    ```
        class NumberGame:
            ...
            def __init__(
                self,
                goal: int,
                min_step: int,
                max_step: int,
                players: Tuple[Player, Player]
            ) -> None:
                ...
                self.players = players # <- Here!

    ```

2. If *turn* is 15, whose turn is it?

    We need to determine who's turn is at turn 15.

    The code of method *whose_turn* tells us

```
    class NumberGame:
        ...
        def whose_turn(self, turn: int) -> Player:
            """Return the Player whose turn it is on the given turn number.
            """
            if turn % 2 == 0:
                return self.players[0]
            else:
                return self.players[1]

```

Using this code, we can conclude that at turn 15, it's player 2's turn.

Rough Work:

We need to determine who's turn is at turn 15.

1. State the code responsible for telling us about player's turn.

The code of method *whose_turn* tells us

```
class NumberGame:
    ...
    def whose_turn(self, turn: int) -> Player:
        """Return the Player whose turn it is on the given turn number.
        """
        if turn % 2 == 0:
            return self.players[0]
        else:
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```

2. Conclude it's player 2's turn at turn 15 using the method

Using this code, we can conclude that at turn 15, it's player 2's turn.

We need to determine who's turn is at turn 15.

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```
class NumberGame:
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```

Using this code, we can conclude that at turn 15, it's player 2's turn.

3. Write a line of code that would create an instance of *NumberGame* that violates one of

the representation invariants.

4. Which of the representation invariants is it possible to violate by constructing a *NumberGame* improperly?

5. List all the places in this class where a *Player* is stored, an instance attribute of *Player* is accessed or set, or a method is called on a *Player*