Task 2.1 - Tests Files Created

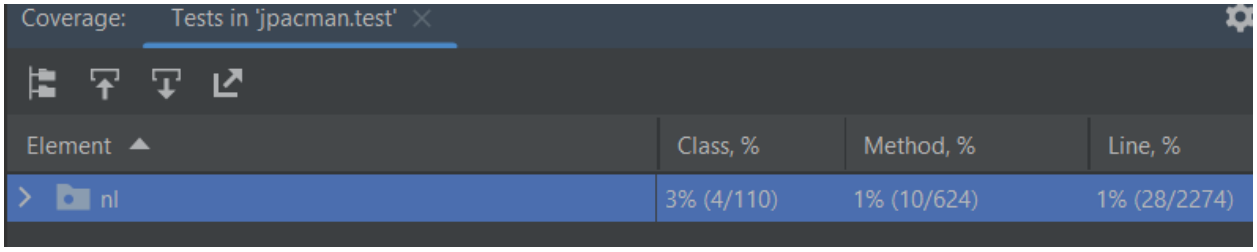
withinBoarderTest.java | SetDirectionTest.java | createInkyTest.java

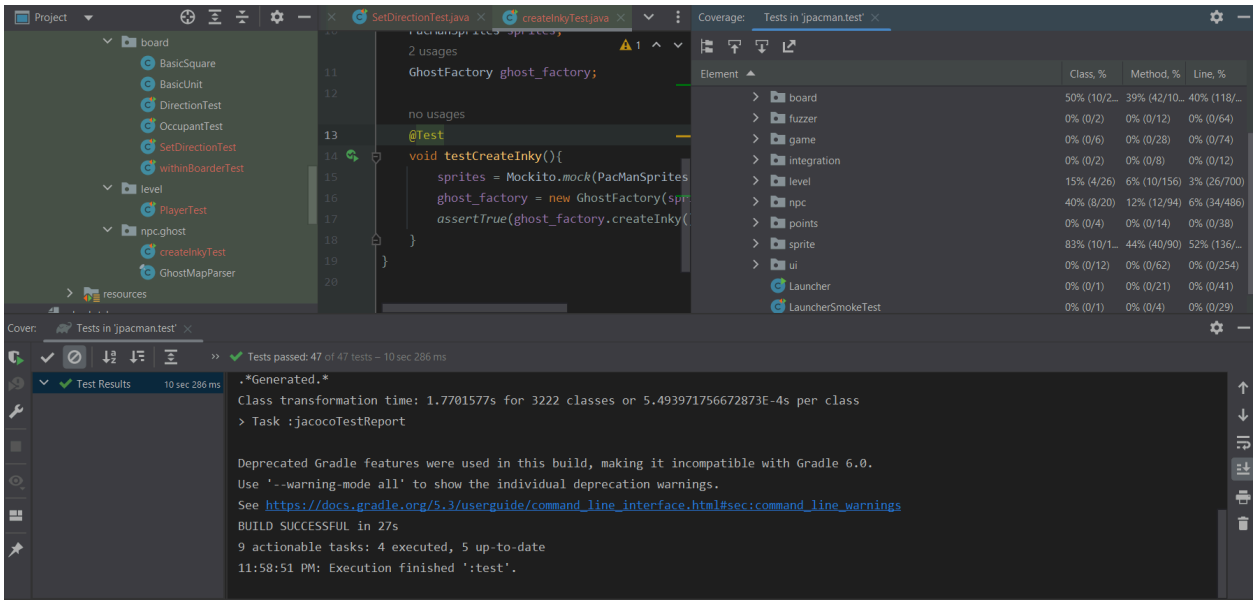
```java
void testwithinBorders() {
    PacManSprites sprites = mock(PacManSprites.class);
    BFactory = new BoardFactory(sprites);
    var square1 = new BasicSquare();
    var square2 = new BasicSquare();
    var board = BFactory.createBoard(new Square[][]{{square1}, {square2}});
    assertTrue(board.withinBorders( x: 0, y: 0));
    assertTrue(board.withinBorders( x: board.getWidth()-1, y: board.getHeight()-1));
}
```

```java
@Test
void TestSetDirection(){

    /*
    *Set the player direction to North
    * Check if Player direction is North
     */

    Direction north = Direction.valueOf( name: "NORTH");
    ThePlayer.setDirection(north);

    assertThat(ThePlayer.getDirection()).isEqualTo(Direction.NORTH);
}
```

```java
public class createInkyTest {
    2 usages
    PacManSprites sprites;
    2 usages
    GhostFactory ghost_factory;

    no usages   new *
    @Test
    void testCreateInky(){
        sprites = Mockito.mock(PacManSprites.class);
        ghost_factory = new GhostFactory(sprites);
        assertTrue(ghost_factory.createInky() instanceof Inky);
    }
```

Task 3:





Element	Missed Instructions	Cov.	Missed Branches	Cov.
nl.tudelft.jpacman.level		67%		58%
nl.tudelft.jpacman.npc.ghost		71%		55%
nl.tudelft.jpacman.ui		77%		47%
default		0%		0%
nl.tudelft.jpacman.board		86%		58%
nl.tudelft.jpacman.sprite		88%		62%
nl.tudelft.jpacman		69%		25%
nl.tudelft.jpacman.points		60%		75%
nl.tudelft.jpacman.game		87%		60%
nl.tudelft.jpacman.npc		100%		n/a
Total	1,204 of 4,694	74%	290 of 637	54%

The coverage results between intelliJ and JaCoCo are vastly different. You can see that the JaCoCo tracks bytecode instruction and statement branches, while intelliJ tracks each line. I find that JaCoCo's visualization is very helpful because it shows which statements have been covered and which have not been tested. I favor JaCoCo's coverage because it is a more specific version of the intelliJ. I like the feature that highlights statements as well.

Task 4:

```python
def test_from_dict(self):
    """ Test account dict"""
    data = ACCOUNT_DATA[self.rand]  # get a random account
    account = Account(**data)
    account.from_dict(data)
    result = account.to_dict()
    self.assertEqual(account.name, result["name"])

new *
def test_update(self):
    """ Test account update"""
    data = ACCOUNT_DATA[self.rand]  # get a random account
    account = Account(**data)
    with self.assertRaises(models.account.DataValidationError):
        account.update()
    account.create()
    account.update()
    result = account.to_dict()
    self.assertEqual(account.name, result["name"])
```

```python
def test_delete(self):
    """ Test account deletion """
    data = ACCOUNT_DATA[self.rand]  # get a random account
    account = Account(**data)
    account.create()
    account.delete()
    self.assertEqual(len(Account.all()),  second: 0)

new *
def test_find(self):
    """ Test finding"""
    data = ACCOUNT_DATA[self.rand]
    account = Account(**data)
    account.create()
    self.assertEqual(Account.find(account.id), account)
```

```
Name                 Stmts   Miss  Cover   Missing
--------------------------------------------------
models\__init__.py       7      0   100%
models\account.py       40      0   100%
--------------------------------------------------
TOTAL                   47      0   100%
----------------------------------------------------------------
Ran 8 tests in 1.467s
```

Task 5:
Added test for POST and PUT.

```python
def test_update_a_counter(self):
    """Test update counter. POST, PUT, GET"""
    # Create Counter doo
    self.setUp()
    result = self.client.post('/counters/doo')
    self.assertEqual(result.status_code, status.HTTP_201_CREATED)
    self.assertEqual(COUNTERS.get('doo'), second: 0)

    #Increment doo by 1
    result = self.client.put('/counters/doo')
    self.assertEqual(result.status_code, status.HTTP_200_OK)
    self.assertEqual(COUNTERS.get('doo'), second: 1)
```

```
- Test update counter. POST, PUT, GET (FAILED)

======================================================================
FAIL: Test update counter. POST, PUT, GET
----------------------------------------------------------------------
Traceback (most recent call last):
  File "C:\Users\henry\Documents\GitHub\tdd\tests\test_counter.py", line 50, in test_update_a_counter
    self.assertEqual(result.status_code, status.HTTP_200_OK)
AssertionError: 405 != 200
```

Added PUT

```python
new *
@app.route( rule: '/counters/<name>', methods=['PUT'])
def update_counter(name):
    """Update a counter"""
    app.logger.info(f"Request to update counter: {name}")
    global COUNTERS
    COUNTERS[name] = COUNTERS[name] + 1
    return {name: COUNTERS[name]}, status.HTTP_200_OK
```

```
- Test update counter. POST, PUT, GET

Name             Stmts   Miss  Cover   Missing
------------------------------------------------
src\counter.py      16      0   100%
src\status.py        6      0   100%
------------------------------------------------
TOTAL               22      0   100%
----------------------------------------------------------------------
Ran 3 tests in 0.519s
```

Added GET and test for GET

```python
@app.route( rule: '/counters/<name>', methods=['GET'])
def read_counter(name):
    """Read a counter"""
    app.logger.info(f"Request to read counter: {name}")
    global COUNTERS
    return {name: COUNTERS[name]}, status.HTTP_200_OK
```

```python
#Read doo
result = self.client.get('/counters/doo')
self.assertEqual(result.status_code, status.HTTP_200_OK)
self.assertEqual(COUNTERS.get('doo'),  second: 1)
```

```
- It should return an error for duplicates
- Test update counter. POST, PUT, GET

Name              Stmts   Miss  Cover   Missing
-------------------------------------------------
src\counter.py       20      0   100%
src\status.py         6      0   100%
-------------------------------------------------
TOTAL                26      0   100%
-------------------------------------------------------
Ran 3 tests in 0.512s
```