**Straight & Narrow Team Assignment Lesson 5**

**1. State the task that the method will perform.**

The score method will use the year, population, wheat, and acres to determine a grand total score.

**2. List and describe the input parameters defined in the method signature.**

year: the current year in game

population: current occupancy of township

wheat: current wheat in inventory

acres: current acres owned

**3. Describe the type of data returned from the method.**

score: in double format

**4. Define the validation rules for each of the input parameters. These rules may not be defined explicitly in the end-user story. You will need to determine what the validation rules are for each input if not defined in the end-user story.**

year must be > or = 1

population must be > or = 0

wheat must be > or = 0

acres must be > or = 0

year \* ((population \* 2) + (wheat \* 1) + (acres \* 20)) = score

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| calcScore Test Matrix | | | | | | | |
|  | Test Cases | | | | | | |
| valid | Invalid | | | | Boundary | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Inputs | | | | | | | |
| year | 1 | 0 | 3 | 1 | 2 | -1 | 2 |
| population | 50 | 50 | 100 | 5 | -50 | -5 | -50 |
| wheat | 100 | 100 | -350 | 25 | 35 | -100 | 100 |
| acres | 50 | 50 | 5 | -5 | 3 | -1 | 5 |
| Outputs | | | | | | | |
| score | 1200 | -1 | -1 | -1 | -1 | 1430 | 200 |
| Error |  | year is zero | wheat is negative | acres is negative | population is negative |  |  |

calcScore(year, wheat, population, acres) : double

**BEGIN**

if (year <= 0)

return -1

else if (population < 0)

return -1

else if (wheat < 0)

return -1

else if (acres < 0)

return -1

score = year \* ((population \* 2) + (wheat \* 1) + (acres \* 20)) = score

return score

**END**