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**Requirements Specification:**

MathsTutor

**Intended Audience:**

Primary (Year 1/Year 2)

**Specific Requirements:**

* A console application
* Application presents a welcome message when the application starts
* Application presents a goodbye message when the application quits
* Application presents a menu to users
  + Menu items are:
    - Instructions
      * Users are presented with non-interactive instructions
    - Deal 3 cards (2 numbers + operator)
      * Users are presented with a maths sum
      * [Input] an answer
      * [Output] correct/not correct message
      * [Output] deal again/return to menu message
    - Quit
* Single shuffle algorithm of your choice
* Each class should be in a separate file
* Card, Pack and Tutorial classes should be present
* Errors should be handled
* Object-Oriented aspects:
  + Instantiate objects
  + Encapsulation
  + Inheritance
* Application will eventually work with a WinFoms gui (not required here)
* Application should be tested:
  + To verify these requirements

**Optional Requirements:**

* Statistics are stored in a .txt file

Application presents additional menu items:

* + Deal 5 cards (3 numbers + 2 operators)
    - User presented with maths sum
    - Use BODMAS to get correct answer
* Exception handling should be used
* Object-Oriented aspects:
  + Polymorphism
  + Interfaces
* Application should be tested
  + With a separate ‘Test’ class to verify if the maths is correct