WEEK2

YES, THIS IS THE ENGLISH GROUP ☺

NOTE IN ADVANCE

- Please join the Telegram group → Link @ in.tum.de/~lochert

PLAN

- Homework
- MiniJava
- Regex
- Meiern
- Lustige Sieben

HOMEWORK

- Most students got full marks (yay!)

SOME DO NOTS

- Do not submit the .class file

SOME DO NOTS

- Do not use packages

SOME DO NOTS

- Do not submit the MiniJava file (yes someone did that)

SOME DO NOTS

- Do not go utterly overboard with “Easter Eggs”
  - Also don’t forget to actually do the task

MINIJAVA

- MiniJava has been updated
- Please download the latest version
  - Required for the homework

REGEX

REGEX RECAP

- a+ →One or more
- a* → Zero of more
- a? → Zero or One
- Binary ::= (0 | 1) →Declaration
- A | B → Or

TASK 1

- Underscores in Integers
  - No Leading zeros

TASK 1

You can place underscores only between digits; you cannot place underscores in the following places:
•At the beginning or end of a number
•Adjacent to a decimal point in a floating point literal
•Prior to an F or L suffix
•In positions where a string of digits is expected

Source: https://docs.oracle.com/javase/7/docs/technotes/guides/language/underscores-literals.html

TASK 1

You can place underscores only between digits; you cannot place underscores in the following places:

- At the beginning or end of a number
- ~~Adjacent to a decimal point in a floating point literal~~
- ~~Prior to an F or L suffix~~
- ~~In positions where a string of digits is expected~~

Source: https://docs.oracle.com/javase/7/docs/technotes/guides/language/underscores-literals.html

TASK 1 – WHICH ARE ALLOWED?

- int x1 = _52;
- int x2 = 5_2;
- int x3 = 52_;
- int x4 = 5_____2;

Source: https://docs.oracle.com/javase/7/docs/technotes/guides/language/underscores-literals.html

TASK 1 – ANSWERS

- int x1 = _52; // This is an identifier, not a numeric literal
- int x2 = 5_2; // OK (decimal literal)
- int x3 = 52_; // Invalid; cannot put underscores at the end of a literal
- int x4 = 5_____2; // OK (decimal literal)

TASK 1 – DEFINITIONS

- NoZeroDigit ::= (1|…|9)
- Digit ::= (NoZeroDigit | 0)

TASK 1

- Ideas?

TASK 1 – SOLUTION

- Number::= -? NoZeroDigit (_* Digit)*

TASK 1 – SOLUTION

- There are multiple different solutions to Regex problems
  - All depend on your definitions

TASK 2 – A+

- Define a+ using only “ ? , | , * ”

TASK 2 – A+

- a a*

TASK 2 – MAIN TASK

Say *letter* is any given letter of the alphabet →Letter:= (a|…|z)

Give the regex for:

1. All words that do not contain b
2. All words that begin with a or b, and end with a c
3. All words that either begin with a and end with b, or that begin with b and end with a

TASK 2 - SOLUTION

1. (a | c | d | e |…| z)*
2. (a | b) letter* c
3. (a letter∗ b) | (b letter∗ a)

MEIERN

MEIERN - RULES

- Two sets of dice
- Player I throws dice
- Dice are interpreted and scored
  - Largest always first
    - 2 & 6 as 62
- Player II throws dice
- Dice are interpreted
- If the current player has a dice with a higher score, the previous player gets to roll again
  When the current player has a lower score than their predecessor → Current Player loses

MEIERN – SCORING

- 21 → Instant Win
- Pairs → 66 Highest, 11 Lowest
- 65 down to 31

IMPLEMENTATION

- You vs Computer
- Use dialog boxes provided by MiniJava

HOW BEST TO APPROACH?

LUSTIGE SIEBEN

LUSTIGE SIEBEN

- One player vs the Bank
- Player starts with a balance of 100
- The Player places a bet on a particular field
- The bank rolls a dice → dice() method

LUSTIGE SIEBEN

- If player has chosen 7 and 7 is rolled → 3x Bet
- If sum of both dice is equal to players chosen field → 2x Bet
- If the sum of both dice is found on the same horizontal side as the chosen field excluding 7 → 1x Bet

7	
2	8
3	9
4	10
5	11
6	12

Say 4 has been thrown.

If bet is on 4 → Double Returns

If bet is on 2, 3, 5, 6 →Return bet

LUSTIGE SIEBEN

- The player is given a choice to end the game by entering 0 as his bet
- The game shall end if the player's balance is 0
- The player should be told his balance at the end of the round

HOW BEST TO APPROACH?