Welcome.TU.code

String manipulation

Recap Questions

What is a function and what does the structure look like?

Recap Question

Write a function on the board which takes three integer arguments and returns the biggest number

e.g. (1,7, 5) => 7

Recap Question

Write a function with two integer arguments ("begin", "end") which returns the sum of all numbers from "begin" to "end"

e.g. (1, 5) => 15

Recap Question

Write a function with two integer arguments ("begin", "end") which returns the sum of all even numbers from "begin" to "end"

e.g. (1, 5) => 6

String manipulation

Characters

Used for storing single characters in variables
Simple variable like int, double

char c1 = 'a';
char c2 = 'Q';
char c3 = 'ä';
char c4 = '#';
char c5 = ' ';

char vs Strings

- char
  - stores only a single character
  - enclosed in ' '

- String
  - stores a sequence of characters
  - enclosed in " "
  - Has methods for manipulation

String operations

contains / startsWith / endsWith
length
indexOf / charAt
replace / replaceAll
substring
toLowerCase / toUpperCase

contains / startsWith / endsWith

- boolean contains(String str)
  - Tests if str is in the String

- boolean startsWith(String str)
  - Tests if the string starts with argument

- boolean endsWith(String str)
  - Tests if the string ends with argument

contains / startsWith / endsWith

- True or false?
  - "Hello World".contains("Hello")
  - "Hello World.contains("hello")

  - String hello = "Hello World"
  - hello.endsWith("rld")

Exercise 1 & 2

contains(String container,String content)

startsAndEnds(String str,String startOrEnd)

length

- int length()
  - ○ Returns the length of the string
  - ○ = Number of characters

indexOf / charAt

- **int indexOf(char character)**
  - Returns the first position of character in the string

- **char charAt(int index)**
  - Returns the character of the given position in the string

Exercise 3 & 4

print8thLetter(String str)

numberOfEs(String str)

replace / replaceAll

- String replace(char oldChar, char newChar)
  - Replaces all occurrences of oldChar with newChar

- String replaceAll(String regex,String replacement)
  - Replaces all occurrences of regex with replacement

Exercise 5

replaceWordsAndLetters(String sentence,String search, String replacement)

substring

- String substring(int beginIndex)
  - ○ Returns the content of the string starting with beginIndex
- String substring(int beginIndex, int endIndex)
  - ○ Returns the string between beginIndex and endIndex
  - ○ beginIndex is inclusive
  - ○ endIndex is exclusive
- "Hello World".substring(1,4)   => ???

toLowerCase / toUpperCase

- String toLowerCase()
  - changes all uppercase letters to lowercase letters

- String toUpperCase()
  - changes all lowercase letters to uppercase letters

Exercise 6

printSecondWord(String str)

Homework

1. Characters in a String

2. String stairs
   a. normal String stair
   b. reversed String stair

3. Initials of a given Name

Thanks for your attention