

Homework: Arrays

1. Exercise - Count Vowels: Implement the function

```
int countVowels(String s)
```

It should return the number of vowels (a, e, i, o, u) in the given string.

E.g. `countVowels("I like ice cream.")` should return 7.

2. Exercise - String replacement: Implement the function

```
String replaceNameAndAge(String s, String name, int age)
```

It should replace all occurrences NAME with the given name and AGE with the given age.

E.g. `replaceNameAndAge("My name is NAME and I am AGE years old.", "Richard", 20)` should return: "My name is Richard and I am 20 years old."

3. Exercise - Split a string: Implement the function

```
String[ ] splitToWords(String s)
```

It should split the given string into substrings which contain the words and store them into a new array. E.g. `splitToWords("This is a sentence.")` should return an array {"This", "is", "a", "sentence."}.

4. Exercise - Average: Implement the function

```
double average(double[ ] numbers)
```

It should return the average of the given numbers.

5. Exercise - *Bonus* Multidimensional arrays: Implement the function

```
int[ ][ ] toMultidimensionalArray(int[ ] numbers, int rowLength)
```

It convert the 1-D array "numbers" into a 2-D array with the given row length.

E.g. `toMultidimensionalArray({1, 2, 3, 4, 5}, 3)` should return a multidimensional array {{1, 2, 3}, {4, 5}}.