

**University of Konstanz**  
**Winter Term 2014/2015**  
**Visual Analytics Group**  
Jun.-Prof. Dr. Tobias Schreck

Date of publication: 29.10.2014  
Submission deadline: 07.11.2014, 23:59  
Late submissions cannot be accounted for.

## *A s s i g n m e n t   1   ( 2 0   p o i n t s )*

### **1. Introduction**

**1.1 What are the key tasks of libraries? Describe each task briefly. (2P)**

**1.2 Give, for each of the tasks, an example for useful application of digital technology. (3P)**

**1.3 It is widely believed that information supply fosters economic growth. Give two reasons why this can be the case. (2P)**

**1.4 Briefly describe the idea how Bush's Memex organizes information and provides access to it. (3P)**

### **2. Text Documents and Knowledge Representation (Boyer-Moore algorithm will be explained in the next lecture on 03.11.2014)**

**2.1 Describe the three main ideas behind the Boyer-Moore algorithm for string searching (2P)**

**2.2 Outline the steps of exact string matching using Boyer-Moore algorithm in the following case (state which rule is the step following): (4P)**

**Text:           DAVE\_GAVE\_NANCY\_A\_BANANA**  
**Pattern:       BANANA**

**2.3 What is a Trie structure? Describe briefly how it is built and used for string searching. (4P)**