

School of Computing and Information Systems
The University of Melbourne
COMP90049 Knowledge Technologies (Semester 1, 2018)
Workshop exercises: Week 2

1. What do we mean when we say **knowledge technologies**?
 - (a) Revise the definition of **knowledge tasks** (or **complicated** problems), with respect to **concrete tasks** (or **simple** problems).
 - (b) Consider the following, and decide into which category you believe they fall, referring to the definition you have decided upon above.
 - i. Multiplying two floating-point numbers in base 16
 - ii. Playing a competitive game of naughts-and-crosses
 - iii. Playing a competitive game of go
 - iv. Playing a competitive game of tennis
 - v. Calculating the trajectory of a thrown book
 - vi. Selecting appropriate counter-measures after someone has thrown a book at you
 - vii. Selecting a book that a given person will enjoy reading
 - viii. Translating a program written in C into Java
 - ix. Translating a document written in Japanese in English

2. How is **data** different to **knowledge**?
3. Describe a process through which we might be able to answer the question “Where shall we go for dinner tonight?” using Google (<http://www.google.com>) as a resource. (We’ll touch on some of these elements as the semester goes on.)

4. Revise the following **regular expression** operators:

() [] { } . * + ? ^ \$ | \

For each of the following, give a couple of examples of strings which the regular expression would match. Describe (colloquially, in a manner that a non-technical person would understand) the set of strings that the pattern is designed to match.

- (a) `/[a-zA-Z]+/`
- (b) `/^[A-Za-z][a-z]*$/`
- (c) `/p[aeiou]{,2}t/`
- (d) `/\s(\w+)\s\1/`

5. More on regular expressions next week.