

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.