

# SE33010 Assignment One - Alexander D Brown (adb9)

## Comparing Vienna Development Model and Z Notation

Both the Vienna Development Model (VDM) and Z Notation (Z) use a model-base specification technique and share a lot of their mathematical notation. Where they differ is in the way their specifications are written.

Both are concentrated on the specification of *abstract machines*; a “model orientated” approach. This approach differs from an “algebraic” (or “property orientated”) approaches which focus on defining *abstract data types*[1].

Algebraic approaches give no explicit model of type, defining abstract data types in terms of the relationships between its interactions. In contrast, both VDM and Z give an explicit model of the state of an abstract machine. A commonly used example is a stack; in an algebraic approach it might be defined in a manner described in equation 1, whilst a model orientated approach would typically be modelled as a sequence.

$$\text{pop}(\text{push}(x, s)) = s \tag{1}$$

## References

- [1] I. J. Hayes, I. J. Hayes, C. B. Jones, C. B. Jones, J. E. Nicholls, and J. E. Nicholls. Understanding the differences between VDM and Z. Technical report, 1993.