

# Exersice Sheet 2

## ———— Sample Solution ————

Task 1:

Task 2: Operational Semantics of other Statements

For  $c \in Cmd$ ,  $\sigma, \sigma', \sigma'' \in \Sigma$  and  $b \in BExp$ . The **repeat until relation**  $\langle \text{repeat } c \text{ until } b, \sigma \rangle \rightarrow \sigma''$  is defined by:

$$\frac{\langle c, \sigma \rangle \rightarrow \sigma'' \quad \langle b, \sigma'' \rangle \rightarrow \text{true}}{\langle \text{repeat } c \text{ until } b, \sigma \rangle \rightarrow \sigma''} \text{ (repeat-true)}$$

$$\frac{\langle c, \sigma \rangle \rightarrow \sigma' \quad \langle b, \sigma' \rangle \rightarrow \text{false} \quad \langle \text{repeat } c \text{ until } b, \sigma' \rangle \rightarrow \sigma''}{\langle \text{repeat } c \text{ until } b, \sigma \rangle \rightarrow \sigma''} \text{ (repeat-false)}$$

Task 3:

Task 4: