Übung 4

2. $\{ k > 0 \}$ Max $\{ \forall j (0 \leq j < k \rightarrow m \geq a[j]) \}$

$\{k > 0\}$ Precondition

$i = 0$

$m = a[0]$

$\forall j (0 \leq j < i \rightarrow m \geq a[j])$ Assignment

while $(i \neq k)$ {

$\forall j (0 \leq j < i \rightarrow m \geq a[j] \wedge i \neq k)$ Partial while

if $(a[i] \geq m)$ {

$\{ \forall j (0 \leq j < i \rightarrow m \geq a[j] \wedge a[i] \geq m) \}$ if

$m = a[i]$

(*) $\{ \forall j (0 \leq j < i+1 \rightarrow m \geq a[j]) \}$ Implied

} else {

$\{ \forall j (0 \leq j < i \rightarrow m \geq a[j] \wedge \neg (a[i] \geq m)) \}$ if

$m = m$

(*) $\{ \forall j (0 \leq j < i+1 \rightarrow m \geq a[j]) \}$ Implied

}

$i = i + 1$;

$\{ \forall j (0 \leq j < i \rightarrow m \geq a[j]) \}$ Assignment

}

$\{ \forall j (0 \leq j < i \rightarrow m \geq a[j] \wedge \neg (i \neq k)) \}$ Partial while

$\{ \forall j (0 \leq j < k \rightarrow m \geq a[j]) \}$ Postcondition.