1) $S(u) = \dfrac{u+1}{1 + \dfrac{1}{u+1}}$

$u + 1 \neq 0 \qquad 1 + \dfrac{1}{u+1} \neq 0$

$u \neq -1 \qquad\qquad u+1$

$\qquad\qquad \dfrac{u+1}{u+1} + \dfrac{1}{u+1} \neq 0$

$\qquad\qquad \dfrac{u+2}{2u+2} \times \dfrac{1}{1} \neq 0$

$\qquad\qquad\qquad u+2 \neq 0$

$\qquad\qquad\qquad u \neq -2$

logo: $\{u \mid u \neq -1, -2\}$