1. Rice’s Theorem as in the book states that is incomputable. The halting problem asks whether a Turing machine halts on input . Let be the input to on a set of partial functions where the only two functions in it are a function that is only defined for and where , and a function that is only defined for and where . is non-trivial because both functions in it are computable (make two Turing machines where they only accept and only accept , respectively), and there are computable functions outside of (say, whether a string is a palindrome).