1. State the definition of:
   (a) the language $S_{tm}$

   (b) the language $A_{tm}$

2. In each case give an example, or state it does not exist:
   (a) A language that is recursive.

   (b) A language that is r.e.

   (c) A language that is recursive but not r.e.

   (d) A language that is r.e. but not recursive.

   (e) A language that is not recursive but its complement is.

   (f) A language that is not r.e. but its complement is.