Foundations of Computer Science 2

Homework Exercises 1

Note | S × T | is the same as #(S x T)

1. Suppose S and T are types (or sets in Mathematics). If S={a,b,c} and T={m,n,o} then calculate S × T.
   a. What is | S × T |?
2. Suppose S and T are types. If S={0,1,2,3,4} and T={a,b} then calculate S × T.
   a. What is | S × T |?
3. Suppose IDs={17123456, 17234567, 17345678, 17456789,17567890} and Scores={A,B,C,D,F}.
   a. What is IDs × Scores ?
   b. What is | IDs × Scores |?
4. Construct a mapping to represent the following method in Java which calculates the square of a number:

   public int sq(int x)

   a. List some elements of this mapping.
5. Construct a mapping to represent the following method in Java which calculates a 'to the power of' b, a^b.

   public int power(int a, int b)

   a. List some elements of this mapping.