Question 1. [8 MARKS]

Consider this schema:

Relations

R1(A, B, C, D)

R2(B, G, H)

R3(P, Q, R)

R4(L, M, N)

Integrity constraints

R1[A] ⊆ R2[B]

R2[G] ⊆ R3[R]

R4[M] ⊆ R1[D]

Part (a) [4 MARKS]

Below are some claims about this schema. For each, circle one answer to indicate whether it is true, and then explain your answer. There are no marks for a circle without an explanation.

Solutions: Note that more detail is provided in the explanation here than was required.

1. False two tuples in R2 can have the same value for G.

   True [False] Explain:

   G is only part of the key, so G values can repeat