1. Given relation R(m, n, o, p, q, w). There are two keys (n, o) and w. Given a set of functional dependencies F = {FD1: {n, o} -> {m, p, q, w} FD2: n -> p, FD3 w -> {m, n, o, p, q}} is R in 2NF and why?

Non-Prime Attributes: p, m, q

Considering FD: {n, o} -> {m, p, q, w} & n -> p we find the following:

{n, o} -> p

n-> p

Therefore, since p (a non-prime attribute) can be derived from either {n, o} or n it is not fully functionally dependent. As a result, relation R is NOT in 2NF.