suppose that $(q',q'') = d$ then $q' = xd, q'' = yd$ where $(x,y) = 1$. But since x,y also are factors of q, both of x,y cannot be non units and hence $q'|q''$ or $q''|q'$. That is q is a rigid non unit (cf Def. 1, Ch.2). Once we have shown that every packet in R is a rigid non unit it becomes obvious in the light of Theorem 1, that R is a Semirigid domain.

3. Unique Representation Domains.

In the previous section, we were able to show that every non zero non unit in an HCF ring of Krull type is the product of a finite number of mutually co-prime packets. But from the definition of a packet follows the

Proposition 2. Let R be an HCF domain and suppose that a non zero non unit x in R is expressible as the product of a finite number of mutually co-prime packets, then the factorization of x in this manner is unique up to associates of the packets and up to order.

And this Proposition gives us the concept of a <u>Unique Representation Domain (URD)</u>, as an HCF domain in which every non zero non unit is expressible as the product of a finite number of mutually co-prime packets.

In this section after formally proving the Proposition 2 we show with the help of an example that a URD is not necessarily a ring of Krull type. We show that an HCF domain is an essential domain and prove that the necessary and sufficient condition for an HCF domain R to be a URD is that every non zero non unit in R has only a finite number of minimal subvalued primes, and this gives rise to the definition of a <u>*-essential domain</u> as an essential domain in which every non zero non unit has a finite number of minimal