CS 232 Computer Organization

Mapping Functions

- Review Direct Mapping and Associative Mapping

- Set-associative Mapping
  - A comprise that exhibits the strengths of direct mapping and associative mapping while reducing their disadvantages
  - Cache is divided into a number of sets
  - Each set contains k lines, called k-way set associative mapping
  - Each block in the main memory is mapped to one set, but it can be cached in any line of the set.
  - Address Structure

| Tag: $s-d$ bits | Set: $d$ bits | Word: $w$ bits |