The PaLM Algorithm

Profile the temporal locality

- How to describe the temporal locality of an variable?
- One variable may have multiple values and get accesses multiple times within its lifecycle.
- For a single variable X, how many accesses on each of its values, in average

  Avg_accesses_per_value(X) = #_of_accesses(X) / #_of_value_accessed(X)

- For a single variable X (or one of its value), the average distance between two consecutive access.

  Avg_reuse_dist(X) = SUM(reuse_dist(X)) / #_of_reuses(X)

The PaLM Algorithm

Profile the spatial locality

- How to describe the spatial locality of an variable?
- X lives in Block B with size of B_size in the memory
- spatial_density(X) = avg_#_of_values_accessed(B, X) / B_size

- ** not clearly defined in the original paper*