

Compiler Assistance

Lineage Cache

Eviction Policies

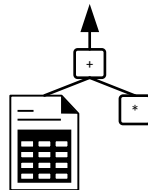
(LRU,
DAG-Height,
Cost & Size)



| Lineage Keys | Values |
|--------------|--------|
| | |
| | |
| | in-mem |

**Multi-Level
Full Reuse**

**Partial
Reuse**



```
pca = function(...) return (...) {
```

```
  N = nrow(A); D = ncol(A)  
  A = scaleAndShift(A);
```

```
  # co-variance matrix
```

```
  mu = colSums(A)/N;  
  C = (t(A) %*% A)/(N-1)  
    - (N/(N-1))*t(mu) %*% mu;
```

```
  # eigen projection
```

```
  [evals, evecs] = eigen(C);  
  dscIdx = order(evals,DESC,IX);  
  diagMat = table(seq(1,D),dscIdx);  
  evecs = evecs %*% diagMat;  
  R = A %*% evecs[,1:K];
```

```
}
```