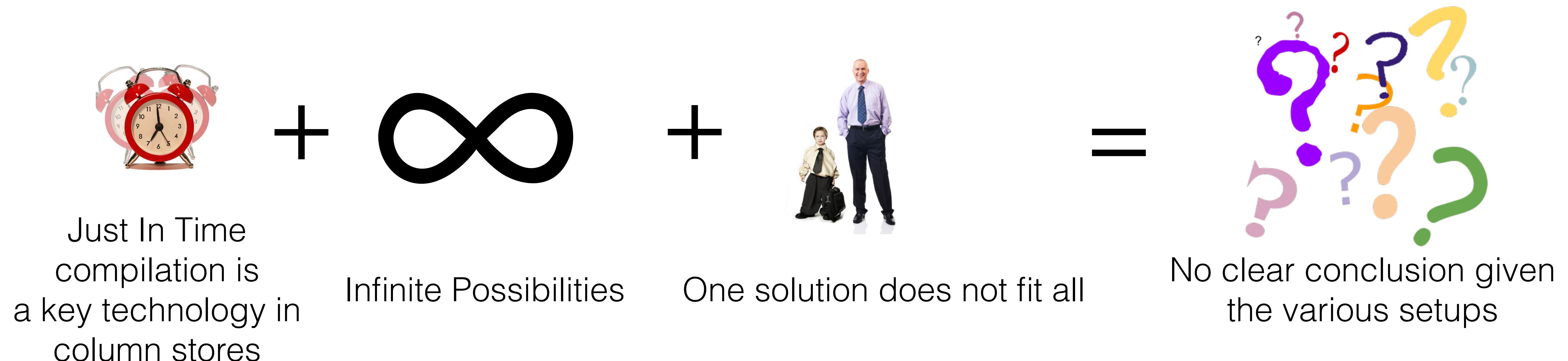


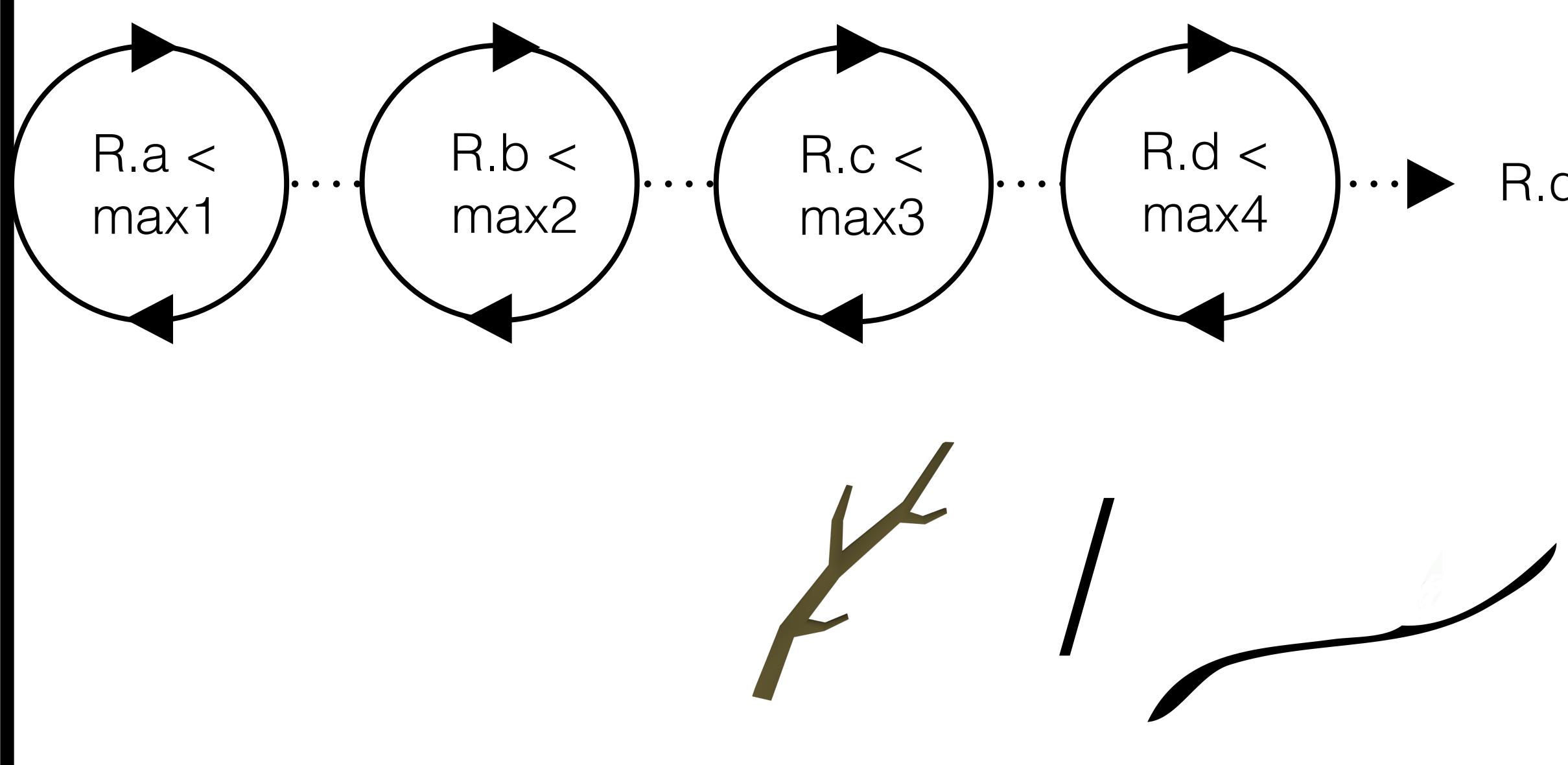
No clear heuristic for JIT code generation



Design Space for SELECT: > 1 Strategies

4 Loops Strategy

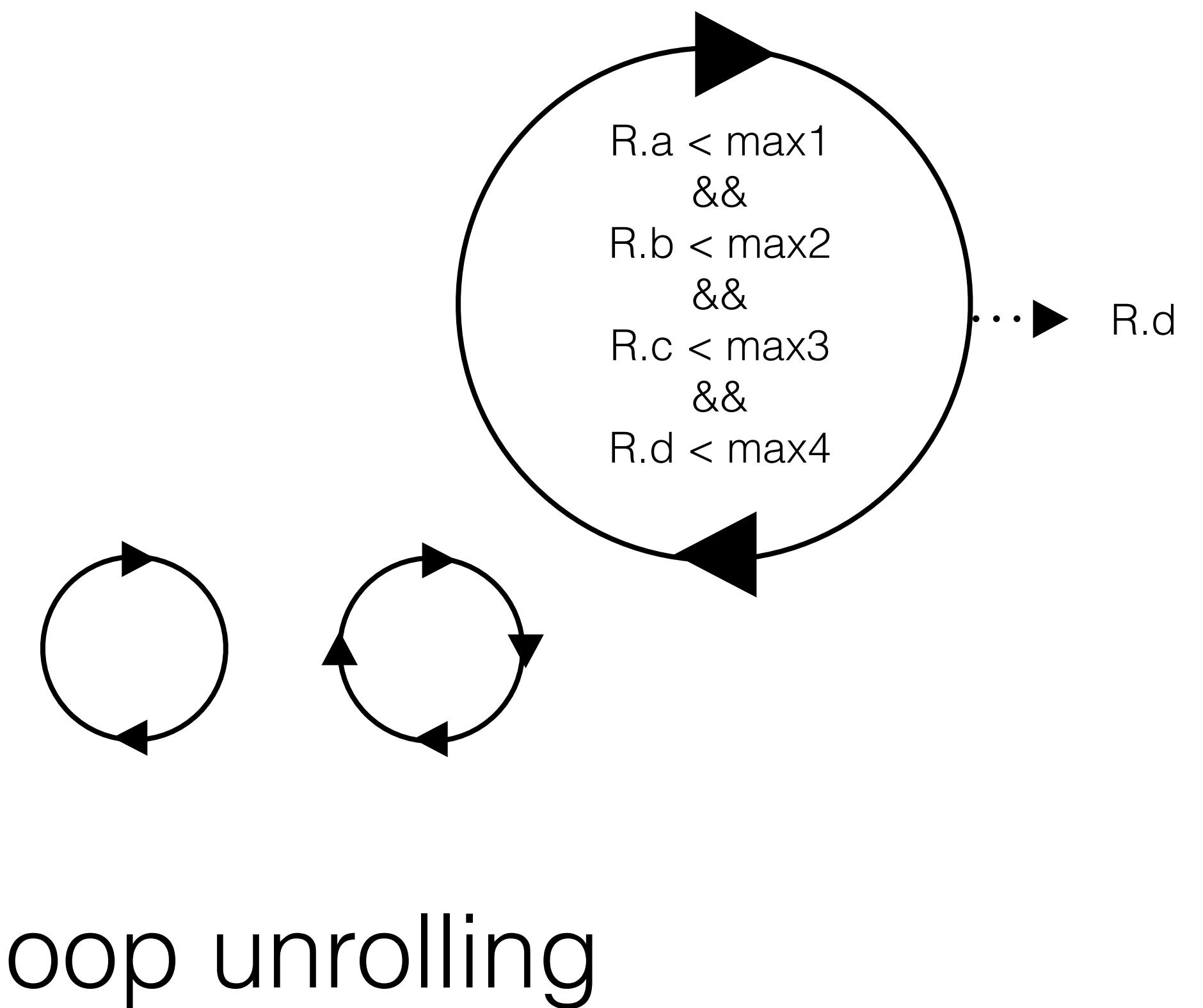
1. inter = select(R.a, max1)
2. inter = select_fetch(R.b, max2, inter)
3. inter = select_fetch(R.c, max3, inter)
4. dest = select_fetch(R.d, max4, inter)



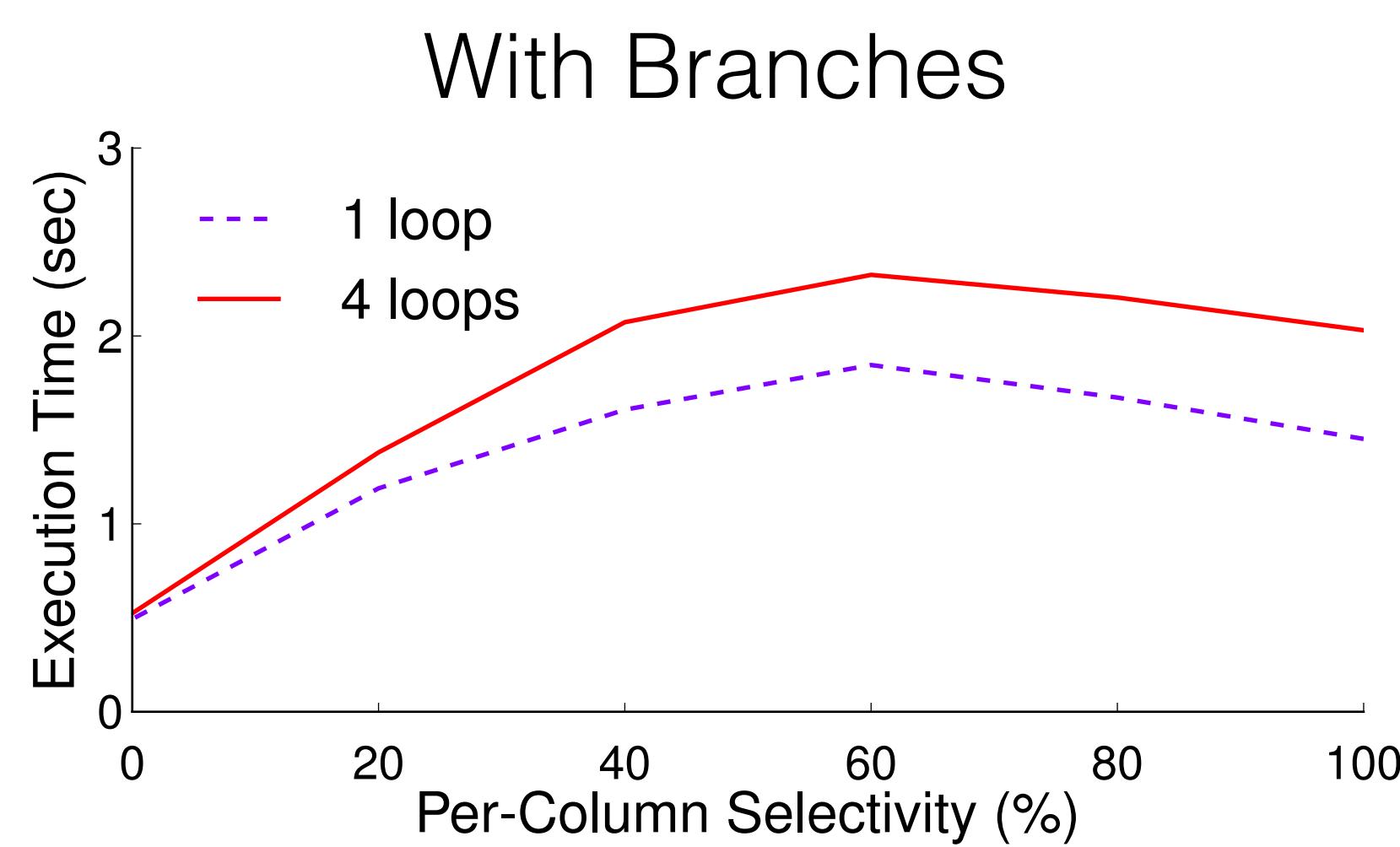
```
SELECT R.d
FROM R
WHERE R.a < max1
    AND R.b < max2
    AND R.c < max3
    AND R.d < max4
```

1 Loop Strategy

```
dest = select(R.a, max1, R.b, max2,
              R.c, max3, R.d, max4)
```

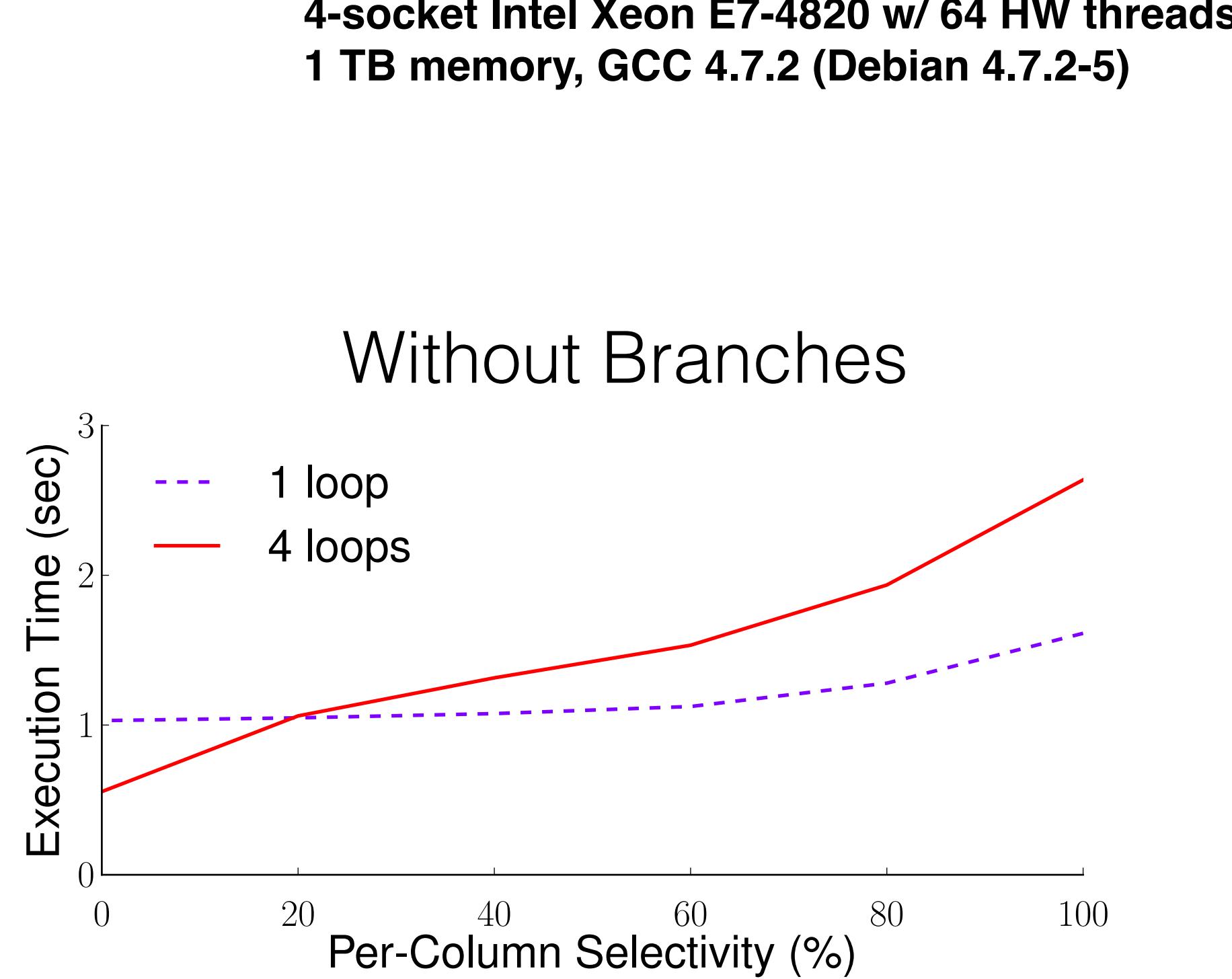


One loop does not fit all



One loop fits all, but ...

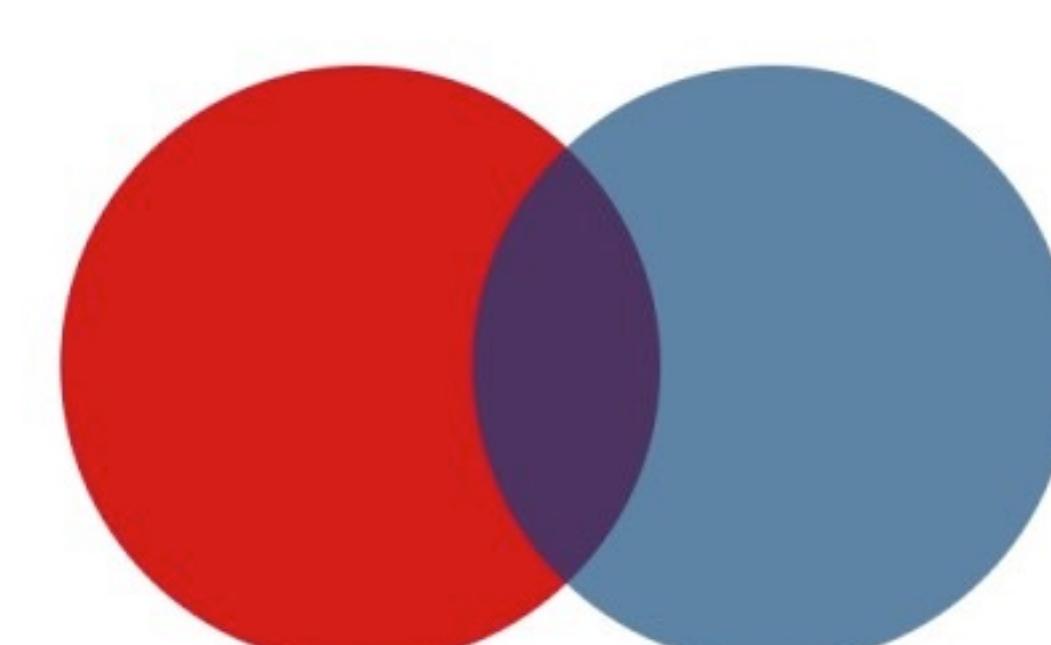
Using separate loops for each predicate results in scanning **fewer cache lines** when the first filter selects very few tuples.



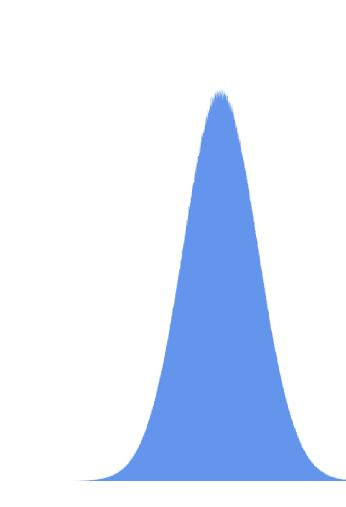
For low selectivity and a single loop we are **reading data that is not going to be used** in the branchless case.

Future Work

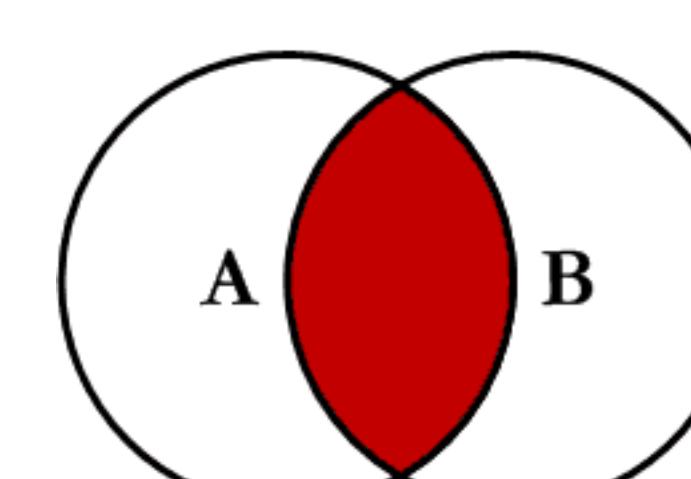
Disjunctive Selects



Alternate Distributions



More complex queries



Correlations

