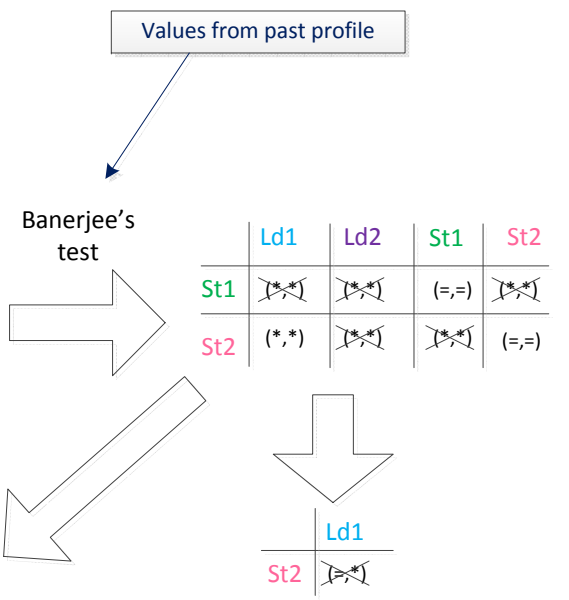```
void foo(int* mem, ...) {
 bb48:
  ...
 bb70:
  ebp = *(mem+(ecx+eax*4)/sizeof(int));
  *(mem+(edi+eax*4)/sizeof(int)) = ebp;
  ebp = *(mem+(esi+eax*4-4)/sizeof(int));
  *(mem+(ebx+eax*4)/sizeof(int)) = ebp;
  eax = eax+1;
  if(eax != edx)
    goto bb70;
  ...
 stk_esp += 1;
 if(stk_esp != edx)
  goto bb48;
 ...
}
```

Values from past profile

Banerjee's test

| | Ld1 | Ld2 | St1 | St2 |
|---|---|---|---|---|
| St1 | (*,*) | (*,*) | (=,=) | (*,*) |
| St2 | (*,*) | (*,*) | (*,*) | (=,=) |

| | Ld1 |
|---|---|
| St2 | (*,*) |

**Without Memory Barrier**

```
void foo(int* restrict mem0, int* restrict mem1,
          int* restrict mem2...) {
 bb48:
  ...
 bb70:
  ebp = *(mem0+(ecx+eax*4)/sizeof(int));
  *(mem1+(edi+eax*4)/sizeof(int)) = ebp;
  ebp = *(mem2+(esi+eax*4-4)/sizeof(int));
  *(mem0+(ebx+eax*4)/sizeof(int)) = ebp;
  eax = eax+1;
  if(eax != edx)
    goto bb70;
  ...
 stk_esp += 1;
 if(stk_esp != edx)
  goto bb48;
 ...
}
```

With Memory Barrier

```
void foo(int* restrict mem0, int* restrict mem1,
          int* restrict mem2, int* restrict mem3...) {
 bb48:
  ...
 bb70:
  ebp = *(mem0+(ecx+eax*4)/sizeof(int));
  *(mem1+(edi+eax*4)/sizeof(int)) = ebp;
  ebp = *(mem2+(esi+eax*4-4)/sizeof(int));
  *(mem3+(ebx+eax*4)/sizeof(int)) = ebp;
  eax = eax+1;
  if(eax != edx)
    goto bb70;
 barrier;
  ...
 stk_esp += 1;
 if(stk_esp != edx)
  goto bb48;
 ...
}
```