SOLUTIONS:

We use a **Direct-Mapped 2KB D$** D$.

- Base program:
  - D$ Accesses: 370866
  - D$ Misses: 36175
- Blocking (B=16):
  - D$ Accesses: 426976
  - D$ Misses: 8447

Discussion: The code performs $2*N^3$ loads (N^3 for the *y* matrix and N^3 for the *z* matrix) plus N^2 stores for the *x* matrix. Thus, for N=32, there are 66560 accesses (note that this value is very far from the value we are obtaining for the original code, 370866, as the compilation process introduces many accesses). Around half of the 66560 accesses miss in the D$ (D$ Misses: 36175). When we use blocking, for B=16 we manage to reduce the misses a lot, as only around 1/10 of the 66560 accesses miss in the D$ (D$ Misses: 8447).