

## Question 2 – cache

```
sarah@ubuntu02:~/CompArch/t6/q2$ ./cache
L=16,K=1,N=8
hits=9, misses=23
sarah@ubuntu02:~/CompArch/t6/q2$ ./cache
L=16,K=2,N=4
hits=13, misses=19
sarah@ubuntu02:~/CompArch/t6/q2$ ./cache
L=16,K=4,N=2
hits=6, misses=26
sarah@ubuntu02:~/CompArch/t6/q2$ ./cache
L=16,K=8,N=1
hits=2, misses=30
```

## Question 3 – matrix multiplication

```
L1 D 32K L 64 K 8 N 64
L1 I 32K L 64 K 8 N 64
L2 U 256K L 64 K 8 N 512
L3 U 4096K L 64 K 16 N 4096

50x50 matrix multiplication
cnt=16717 1671.53 op/s

50x50 matrix multiplication using matB_transposed
cnt=94787 9477.75 op/s

OK 5.67 time faster
hduser@PFDA2018:~/comparc/t6q3$ ./matrixMultiply
PFDA2018 28-Nov-2018 20:57:02
RELEASE
Linux 4.15.0-39-generic 64 bit exe
Intel64 family 6 model 58 stepping 9 Intel(R) Core(TM) i7-3537U CPU @ 2.00GHz NCPUS=2 RAM=5GB L2 cacheSz=256K
L1 D 32K L 64 K 8 N 64
L1 I 32K L 64 K 8 N 64
L2 U 256K L 64 K 8 N 512
L3 U 4096K L 64 K 16 N 4096

50x50 matrix multiplication
cnt=16841 1683.93 op/s

50x50 matrix multiplication using matB_transposed
cnt=96154 9614.44 op/s

OK 5.71 time faster
hduser@PFDA2018:~/comparc/t6q3$ ./matrixMultiply
PFDA2018 28-Nov-2018 20:57:28
RELEASE
Linux 4.15.0-39-generic 64 bit exe
Intel64 family 6 model 58 stepping 9 Intel(R) Core(TM) i7-3537U CPU @ 2.00GHz NCPUS=2 RAM=5GB L2 cacheSz=256K
L1 D 32K L 64 K 8 N 64
L1 I 32K L 64 K 8 N 64
L2 U 256K L 64 K 8 N 512
L3 U 4096K L 64 K 16 N 4096

50x50 matrix multiplication
cnt=16346 1634.44 op/s

50x50 matrix multiplication using matB_transposed
cnt=94458 9444.86 op/s

OK 5.78 time faster
hduser@PFDA2018:~/comparc/t6q3$
```