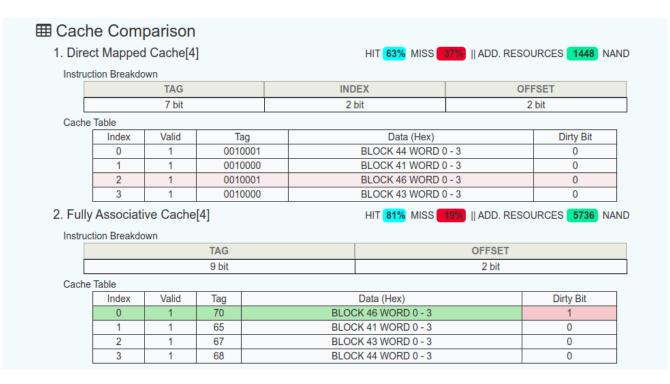
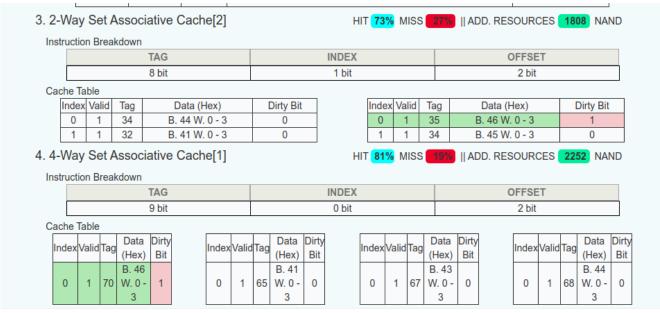
Robby Bergers

Cache Memory

Instruction sequence to multiply matrices (Row Major):

L-100,L-10c,L-101,L-10e,L-102,L-110,L-103,L-112,S-114,L-100,L-10d,L-101,L-10f,L-102,L-111,L-103,L-113,S-115,L-104,L-10c,L-105,L-10e,L-106,L-110,L-107,L-112,S-116,L-104,L-10d,L-105,L-10f,L-106,L-111,L-107,L-113,S-117,L-108,L-10c,L-109,L-110,L-10b,L-112,S-118,L-108,L-10d,L-109,L-10f,L-109,L-111,L-106,L-113,S-119





The two cache types that had the highest success rate were the 4-Way Set Associative Cache and the Fully Associative Cache, both had an 81% hit rate, but since the Fully Associative Cache used more than twice as many resources, the 4-Way Set Associative Cache is the better option.

Instruction sequence to multiply matrices (Column Major):

L-100, L-10C, L-101, L-10D, L-102, L-11E, L-103, L-10F, S-10F, L-100, L-110, L-101, L-111, L-102, L-112, L-103, L-113, S-115, L-104, L-10C, L-105, L-10D, L-106, L-10E, L-107, L-10F, S-116, L-104, L-110, L-105, L-111, L-106, L-112, L-107, L-113, S-117, L-108, L-10C, L-109, L-10D, L-10A, L-10E, L-10B, L-10F, S-118, L-108, L-110, L-109, L-111, L-10A, L-112, L-10B, L-113, S-119

In column major, all caches use similar resources, but the 2-Way Set Associative Cache hit rate decreases from 73% to 72%.