

Instituto Superior Técnico

Organização de Computadores

(LEIC)

Anexo de Respostas

Segundo Trabalho de Laboratório: Hierarquia de Memória

|  |  |
| --- | --- |
| **Número:** | **Nome:** |

|  |  |
| --- | --- |
|  |  |
|  |  |
|  |  |

2015/2016

2.2.1

b) c)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | L1\_size | | | |
| Miss-Rate | 1Kb | 512B | 256B |
| Block Size | 8 | 0.0305 | 0.1247 | 0.196 |
| 16 | 0.0363 | 0.1184 | 0.1829 |
| 32 | 0.077 | 0.1492 | 0.2288 |
| 64 | 0.1181 | 0.2021 | 0.334 |

2.2.2

a)

Total Fetches: 12304896

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Total Misses | L1\_config\_1 | | | | L1\_config\_2 | | | |
| 1-way | 2-way | 4-way | 8-way | 1-way | 2-ways | 4-ways | 8-ways |
| Compulsory | 0.0007724 | 0.000772 | 0.000772 | 0.000772 | 0.000386 | 0.000386 | 0.000386 | 0.000386 |
| Capacity | 0.0017075 | 0.001742 | 0.001907 | 0.001902 | 0.071553 | 0.084408 | 0.08915 | 0.089649 |
| Conflict | 0.027975 | 0.033169 | 2.21E-05 | 1.18E-05 | 0.046422 | 6.5E-07 | 1.3E-06 | 2.6E-06 |
| Total | 0.0304549 | 0.035683 | 0.002701 | 0.002686 | 0.118362 | 0.084795 | 0.089538 | 0.090038 |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Miss-Rate | L1\_config\_1 | | | | L1\_config\_2 | | | |
| 1-way | 2-way | 4-way | 8-way | 1-way | 2-ways | 4-ways | 8-ways |
| Compulsory | 0.0007724 | 0.000772 | 0.000772 | 0.000772 | 0.000386 | 0.000386 | 0.000386 | 0.000386 |
| Capacity | 0.0017075 | 0.001742 | 0.001907 | 0.001902 | 0.071553 | 0.084408 | 0.08915 | 0.089649 |
| Conflict | 0.027975 | 0.033169 | 2.21E-05 | 1.18E-05 | 0.046422 | 6.5E-07 | 1.3E-06 | 2.6E-06 |
| Total | 0.0304549 | 0.035683 | 0.002701 | 0.002686 | 0.118362 | 0.084795 | 0.089538 | 0.090038 |

b)

2.3.1

b) c)

|  |  |
| --- | --- |
| Block Size | Miss-Rate |
| 8 | 0.6523 |
| 16 | 0.3398 |
| 32 | 0.2038 |
| 64 | 0.1679 |

2.3.2

a) b)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Miss-Rate | L1\_config\_1 | | | |
| 1-way | 2-way | 4-way | 8-way |
| Compulsory | 0.025 | 0.025 | 0.025 | 0.025 |
| Capacity | 0.133 | 0.163 | 0.17 | 0.171 |
| Conflict | 0.01 | 0.018 | 0.022 | 0.001 |
| Total | 0.168 | 0.206 | 0.217 | 0.197 |