hw4

Xiangrui Kong

1.

(1.1) Minimum-block Partition

(11)L11: return i

10) goto L4

9) k <- k+1

8) goto L4

7) j <- j + 1

6) i <- k

(5) if j > k goto (9)

(4) L4: if k > 30 goto L11

3) k <- 0

2) j <- 0

1) i <- 0

(1.2) Maximum-block Partition

1.

(1.1) Minimum-block Partition

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8) goto L4

7) j <- j + 1

6) i <- k

(5) if j > k goto (9)

(4) L4: if k > 30 goto L11

3) k <- 0

2) j <- 0

1) i <- 0

B1 = {1, 2, 3}

B2 = {4}

B3 = {5}

B4 = {6, 7, 8}

B5 = {9, 10}

B6 = {11}

2.  
 table of USE and DEF:

|  |  |  |
| --- | --- | --- |
| B | USE | DEF |
| 0 | %a1 | p |
| 1 |  | pmax |
| 2 |  | vmax |
| 3 | p | type |
| 4 | p | val |
| 5 | type |  |
| 6 | vmax, val |  |
| 7 | val | vmax |
| 8 | p | pmax |
| 9 | p | p |
| 10 | p |  |
| 11 | pmax | %a1 |
| 12 |  |  |

to-do: B6(1), B5(1)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Wlist | B12 | B11 | B10 | B9 | B8 | B7 | B6 | B5 |
| LVout | %a1 | %a1 | pmax | p, pmax | p, pmax | p | p, val | p, val, vmax |
| LVin | %a1 | pmax | p, pmax | p, pmax | p | p, val | p, val, vmax | p, val, vmax, type |

to-do: B2(1) to-do: B6(2), B5(2) \*same \*same \*same

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Wlist | B4 | B3 | B10 | B9 | B8 | B7 | B6(2) | B5(2) | B4 | B3 |
| LVout | p, val, vmax, type | p, vmax, type | p, vmax | p, vmax | p, vmax | p, vmax | p, vmax | p, vmax | p, vmax, type | p, vmax, type |
| LVin | p, vmax, type | p, vmax | p, vmax | p, vmax | p, vmax | p, val | p, vmax, val | p, vmax, type | p, vmax, type | p, vmax |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Wlist | B2(1) | B1 | B0 | B6(1) | B5 | B4 |
| LVout | p, vmax | p, | p | p, pmax | p, pmax, vmax, val | p, pmax, vmax, val, type |
| LVin | p | p | %a1 | p, pmax, vmax, val | p, pmax, vmax, val, type | p, pmax, vmax, type |

to-do: B2 (2) to-do: B6(3), B5(3) \*same \*same \*same \*same

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Wlist | B3 | B10 | B9 | B8 | B6(3) | B5(3) | B4 | B2(2) | B1 |
| LVout | p, pmax, vmax, type | p, pmax, vmax | p, pmax, vmax | p, pmax, vmax | p, pmax, vmax | p, pmax, vmax | p, pmax, vmax, type | p, pmax, vmax | p, pmax |
| LVin | p, pmax, vmax | p, pmax, vmax | p, pmax, vmax | p, vmax | p, pmax, vmax, val | p, pmax, vmax, type | p, pmax, vmax, type | p, pmax | p |

to-do: B2(3) \*same \*same

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Wlist | B5(1) | B4 | B3 | B10 | B2(3) |
| LVout | p, pmax | p, pmax, type | p, pmax, type | p, pmax | p, pmax |
| LVin | p, pmax, type | p, pmax, type | p, pmax | p, pmax | p, pmax |

3.

(3.1)

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Wlist | B10 | B9 | B8 | B7 | B6 | B5 | B4 | B3 | B8 |
| LVout | %a1 | %a1 | f | f, a, b | a, b, d | a, d, c2 | a, d, c1 | a, c1 | a, b |
| LVin | %a1 | f | f, a, b | a, b, d | a, d, c2 | a, d, c1 | a, c1 | a, b | a, b |

|  |  |  |  |
| --- | --- | --- | --- |
| Wlist | B7 | B2 | B1 |
| LVout | a, b | a, b | a, %a2 |
| LVin | a, b, d | a, %a2 | %a1, %a2 |

(3.2)