Code motion

0: min = 10
1: max = 100
2: i = max
3: i = i - 1
4: t = min - 1
5: if (t < i) goto 3

Which is loop invariant?

Code motion

0: min = 10
1: max = 100
2: t = 0
3: i = max
4: i = i - 1
5: t = min - 1
6: if (t < i) goto 4

Can loop invariant be hoisted?

Code motion

0: min = 10
1: max = 100
2: t = 0
3: i = max
4: i = i - 1
A: write(t)
5: t = min - 1
6: if (t < i) goto 4

Can loop invariant be hoisted?

Code motion

0: min = 10
1: max = 100
2: t = 0
3: i = max
4: i = i - 1
B: t = 1
5: t = min - 1
A: write(t)
6: if (t < i) goto 4

Can loop invariant be hoisted?

Code motion

0: min = 10
1: max = 100
2: i = max
3: if (i <= 0) goto 6
4: i = i - 1
5: **t = min - 1**
6: goto 3
7: write(t)

Can loop invariant be hoisted?