

Number of Cycles for Each Operation:

⑩ Any 2-OP Except [(MOV – CMP)->Subtract One instruction]

1. Direct src – Direct Dest: 4
 2. Direct src – Ind Reg Dest: 5
 3. Auto Inc src – Auto Inc Dest / Direct src – Auto Inc Dest: 6(Dir) / 7(Indir)
 4. Auto Dec Dest - Direct src / Direct src – Auto Dec Dest : 6(Dir) / 7(Indir)
 5. Index Dest - Direct src / Direct src – Index Dest: 8(Dir) / 9(Indir)
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1. Ind Reg src -Ind Reg Dest : 6
 2. Auto Inc src -Ind Reg Dest / Ind Reg src -Auto Inc Dest : 7(Dir) / 8(Indir)
 3. Auto Dec src -Ind Reg Dest / Ind Reg src -Auto Dec Dest : 7(Dir) / 8(Indir)
 4. Index src -Ind Reg Dest / Ind Reg src -Index Dest : 9(Dir) / 10(Indir)
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1. Auto Inc src -Auto Inc Dest : 10(Indir)/10(Indir) 9(Dir)/10(Indir) 10(Indir)/9(dir)
 2. Auto dec src -Auto Inc Dest / Auto Inc src -Auto dec Dest: 10(Indir)/10(Indir) 9(Dir)/10(Indir) 10(Indir)/9(dir)
 3. Index src -Auto Inc Dest /Auto Inc src -Index Dest : 12(Indir)/12(Indir) 11(Dir)/12(Indir) 12(Indir)/11(dir)
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1. Index src– Auto Dec Dest/Auto Dec src– Index Dest: 12(Indir)/12(Indir) 11(Dir)/12(Indir) 12(Indir)/11(dir)
 2. Auto Dec src– Auto Dec src : 10(Indir)/10(Indir) 9(Dir)/10(Indir) 10(Indir)/9(dir)
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1. Index src– Index Dest : 14(Indir)/14(Indir) 13(Dir)/14(Indir) 14(Indir)/13(dir)

CPI : 8.409 \approx 9

⑩ Any 1-OP

1. Direct : 3
2. Indir : 4
3. Auto Inc: 4(Dir)/5(Indir)
4. Auto Dec : 4(Dir)/5(Indir)
5. Index : 7(Dir)/8(Indir)

CPI : 5

Number of Fetches Excluding Fetching Instruction:

1. Direct : 0
2. Indir : 1
3. Auto Inc: $1(\text{Dir})/2(\text{Indir})$
4. Auto Dec : $1(\text{Dir})/2(\text{Indir})$
5. Index : $2(\text{Dir})/3(\text{Indir})$