

Name:

How is partial evaluation related to simple symbolic interpretation?

Why is peephole optimization done after the target code has been generated? How effective is it before target code generation?

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1. $b = 6$
2. $c = 7$
3. $a = b + 7$
4. $d = b + 8$
5. $e = 9$
6. $f = a + d$
7. $g = c + f$
8. $h = e + g$
9. `return (f+g+h)`

- (a) Construct a register interference graph for the above code fragment.
- (b) Compute the minimum number of registers needed by using the graph coloring algorithm. Use the colors (Red, Orange, Yellow, Green, Blue, Indigo, Violet) in the order listed (Hint: You will not need them all, so only use those that you need.)
- (c) Reordering of instructions is often done during optimization, would it be useful here, state why or why not?