

Calculate the value of allocating registers to variables for each of the variables: a, b, c, d, e and f

Use the following algorithm:

Let $use(x, B)$ be the number of times x is used in block B prior to any definition of x .

Let $live(x, B)$ be 1, if x is live on exit of block B and is assigned a value in B and 0 otherwise.

A formula for the benefit of allocating a register to x within loop L is:

$$\sum_{\text{blocks } B \text{ in } L} use(x, B) + 2 * live(x, B)$$

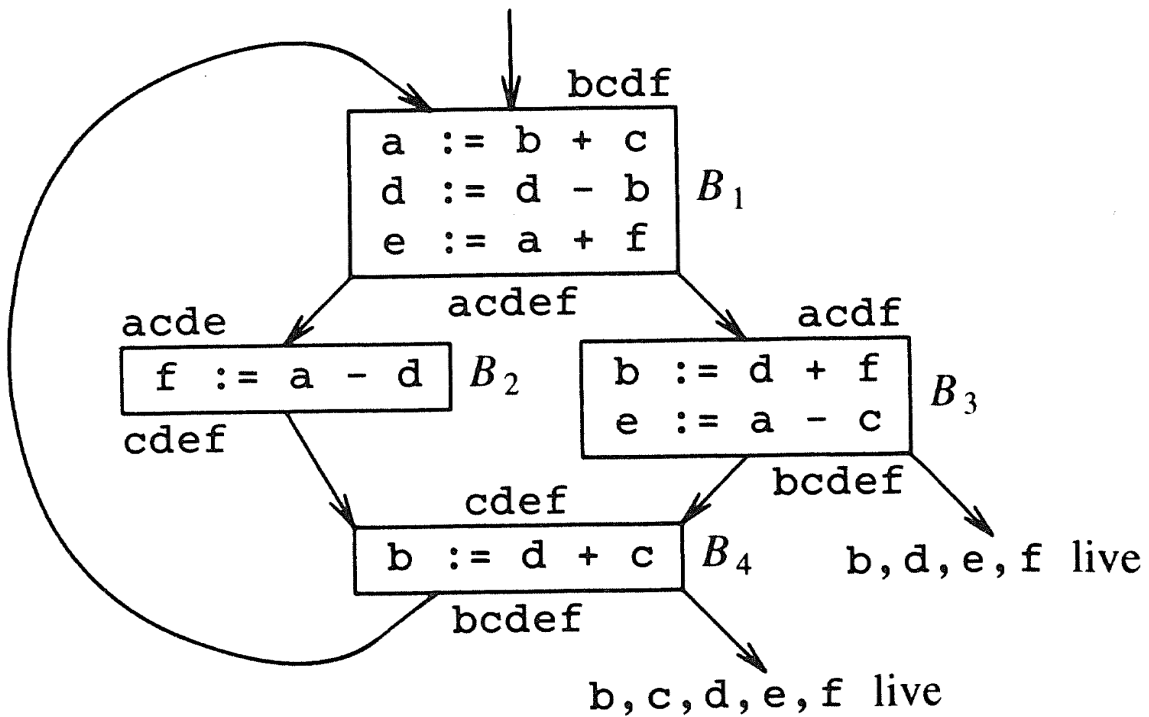


Fig. 9.13. Flow graph of an inner loop.