

4.20 Design a special multiplier circuit that can multiply its 16-bit input by 1, 2, 4, 8, or 16, or 32, specified by three inputs a, b, c ($abc=000$ means no multiply, $abc=001$ means multiply by 2, $abc=010$ means by 4, $abc=011$ means by 8, $abc=100$ means by 16, $abc=101$ means by 32). *Hint:* Use a predefined component described in this chapter. (*Component use problem*).

