第一章课后作业

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8.(3)

解：原式 $= ABC + ABD + BC\bar{D} + B\bar{C}$

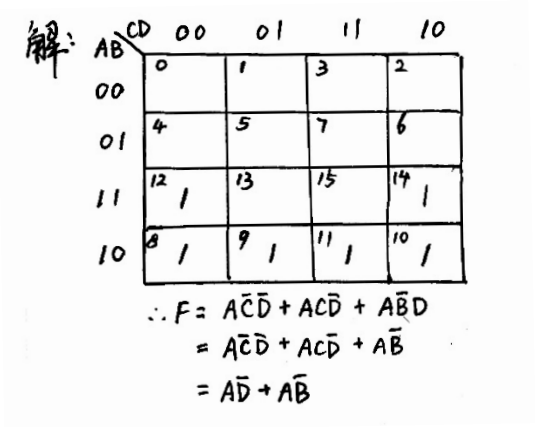
$= B(AC + AD + C\bar{D} + \bar{C})$

$= B(A + \bar{C} + AD + C\bar{D})$

$= B(A + \bar{C} + \bar{D})$

$= AB + B\bar{C} + B\bar{D}$

10.(2)

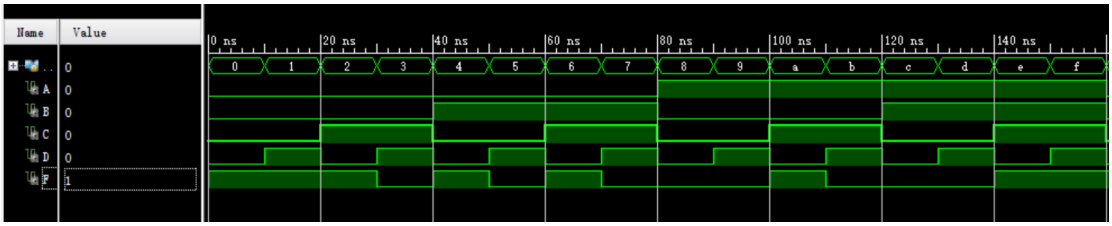


11.(3)

Verilog 代码：

```
module test1(
    input A,
    input B,
    input C,
    input D,
    output F
    );

    wire notA, notB, notC, notD, ans1, ans2, ans3, ans4;

    nand (notA, A, A);
    nand (notB, B, B);
    nand (notC, C, C);
    nand (notD, D, D);

    nand(ans1, notA, notB, notC);
```

```
    nand(ans2, notA, B, notD);
    nand(ans3, notB, C, notD);
    nand(ans4, A, B, C);

    nand(F, ans1, ans2, ans3, ans4);

endmodule
```



逻辑图：