علی نوری پور - 9631407

①

Gray	Binary	Decimal
0000	0000	0
0001	0001	1
0011	0010	2
0010	0011	3
0110	0100	4
0111	0101	5
0101	0110	6
0100	0111	7
1100	1000	8
1101	1001	9
1111	1010	10
1110	1011	11
1010	1000	12
1011	1101	13
1001	1110	14
1000	1111	15

باینری به گری :

```
g[0] = b[0]
for (int i=1; i<4; i++)
    assign g[i]=xor(b[i-1], b[i]);
```

گری به باینری :

```
b[0] = g[0]
for (int i=1; i<4; i++)
  assign b[i] = Xor(b[i-1], g[i]);
```

(2)

```
module func1 (a, b, c, w3);
    input a, b, c;
    wire w1, w2, w3, w4;
    and #10 (a, b, w1);
    not #15 (b, w2);
    and #10 (a, w2, c, w3);
    or #10 (w1, w3, w4);
end module
```

```
module func2 (a, b, c, w5)
    input a, b, c;
    wire w1, w2, w3, w4, w5;
    and #10 (a, b, w1);
    not #15 (b, w2);
    and #10 (a, w2, c, w3);
    and #10 (a, c, w4);
    or #10 (w1, w3, w4, w5);
end module
```