

T12:

$$n=2$$

$$H_0: P_1 = \frac{1}{4} \quad P_2 = \frac{1}{4} \quad P_3 = \frac{1}{6} \quad P_4 = \frac{1}{3}$$

$$H_1: P_1 = P_2 = P_3 = P_4 = \frac{1}{4} \quad \alpha = 0.2$$

H_0 :

| P | 1 | 2 | 3 | 4 |
|---|------|------|------|------|
| 1 | 1/16 | 1/16 | 1/24 | 1/12 |
| 2 | 1/16 | 1/16 | 1/24 | 1/12 |
| 3 | 1/24 | 1/24 | 1/36 | 1/18 |
| 4 | 1/12 | 1/12 | 1/18 | 1/9 |

$$H_1: P_{ij} = \frac{1}{16}$$

$$G: C \geq c$$

$$P(C \geq c | H_0) \leq 0.2$$

C

| | 1 | 2 | 3 | 4 |
|---|-----|-----|-----|------|
| 1 | 1 | 1 | 3/2 | 3/4 |
| 2 | 1 | 1 | 3/2 | 3/4 |
| 3 | 3/2 | 3/2 | 9/4 | 9/8 |
| 4 | 3/4 | 3/4 | 9/8 | 9/16 |

$$C = \frac{9}{4}$$

$$P(C \geq \frac{9}{4} | H_0) = \frac{1}{36}$$

$$C = \frac{3}{2}$$

$$P(C \geq \frac{3}{2} | H_0) = \frac{1}{24} + \frac{1}{24} + \frac{1}{24} + \frac{1}{24}$$

$$+ \frac{1}{24} + \frac{1}{36} = \frac{70}{360}$$

$$\alpha = \frac{70}{360} \Rightarrow C = \frac{3}{2}$$

$$\alpha = \frac{7}{36}$$

$$\alpha_2 = P(C < \frac{3}{2} | H_0) = \frac{11}{36} \quad W = \frac{5}{36}$$