

```

In [3]:
# 연습문제 1 p241 , node (3)
from math import sqrt
from scipy.stats import norm

n=40      # 샘플 사이즈
x=34      # 성공한 샘플의 수
p_hat = x / n # 성공률
z = norm.ppf(0.975)
se = sqrt(p_hat * (1 - p_hat) / n)
lower = p_hat - z * se
upper = p_hat + z * se

print(f'성공률 p의 95% 신뢰구간 : ({round((lower), 3)} < p < {round((upper), 3)})')
성공률 p의 95% 신뢰구간 : (0.739 < p < 0.961)
In [8]:
# 연습문제 1 p241 , node (3) + 시각화
import matplotlib.pyplot as plt

```

```

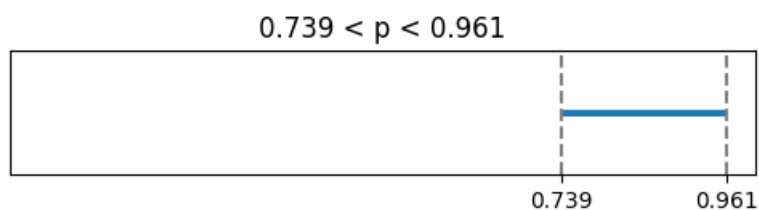
lower = 0.739
upper = 0.961

```

```

plt.figure(figsize=(6, 1))
plt.hlines(0, lower, upper, linewidth=3)
plt.axvline(lower, linestyle='--', color='gray')
plt.axvline(upper, linestyle='--', color='gray')
plt.xlim(0, 1)
plt.yticks([])
plt.xticks([lower, upper], [f'{lower:.3f}', f'{upper:.3f}'])
plt.title('0.739 < p < 0.961')
plt.show()

```



```

In [ ]:
Loading [MathJax]/jax/output/CommonHTML/fonts/TeX/fontdata.js

```