|  |  |
| --- | --- |
| Primal | Dual |
| *max*  *s.t.* | *min*  *s.t.* |

<Duality>

1. Weak Duality
2. Strong Duality

0=⇔

From ⇔

* Complementary Slackness!!!

Suppose that there is no generacy.

We know that basic variable 🡺 (dual의 slack이 0)

Dual의 nonbasic variable! (simplex 풀 때 우리를 slack variable를 추가해 제약식을 등식으로 바꿈)

근데 만약 아래와 같은 상황이라면?

|  |  |
| --- | --- |
| Primal | Dual |
| *max*  *s.t.*  Slack | *min*  *s.t.*  Slack |

Solution>

Basic variable>0 ⇔ nonbasic variable(slack이자 reduced cost)=0