Denote

## Retired:

**Sum up;**

**Get:**

## Working:

**Sum up:**

**To solve:**

**FOC:**

1).

2).

3).

**Denote:**

**Combine 1) 2) to get 4):**

4).

**Rewrite 3):**

**Substitute 4) to 3) then get 5):**

**Finally use 5) & 4) to get**

Because we don’t consider the constraint and , there are checks & bounding to do after solution:

if

if

No feasible solution

elseif

if

No feasible solution

## **Data used**:

**Retired:**

**Working:**