Exercise

1. An oil refinery distills crude oil from Saudi Arabia and Venezuela into gasoline, jet fuel, and lubricants. Following table shows the products (in tons) for each oil type after the oil is distilled off.

	Gasoline	Jet Fuel	Lubricants
1 ton of S.A. crude oil	0.3 tons	0.4 tons	0.2 tons
1 ton of Venezuela oil	0.4 tons	0.2 tons	0.3 tons

The remaining 0.1 tons is lost in refining. The cost of purchasing each oil type ($ / ton) is as follows:

	Cost($ / ton)
S.A	600
Venezuela oil	550

We also have the following daily restrictions:

- At most 90 tons can be purchased from S.A.
- At most 60 tons can be purchased from Venezuela.

The daily demand is 20 tons of gasoline, 15 tons of jet fuel, and 5 tons of lubricants. We want to meet the daily demand at a minimum total cost. Formulate this as an LP problem. Clearly define your decision variables.