BINARY INVESTMENT DECISION

JUSTICE INKOOM

SCENARIO

- A financial investment firm specializes in recommending oil stock portfolios for clients. One such client made the following specifications:

- At least two Texas oil firms must be in the portfolio,

- No more than one investment can be made in foreign oil companies (companies outside of the United States).

- One of two California oil stocks must be purchased.

- Up to $3 million for investing to purchase single blocks of stock per table below.

- Find the allocation of investments to maximize the return.

SCENARIO CONT'D.

Name	Expected Annual Return ($1000)	Cost for Block of Shares ($1000)
Trans-Texas Oil	50	480
British Petroleum (BP)	80	540
Dutch Shell	90	680
Houston Drilling	120	1000
Texas Petroleum	110	700
San Diego Oil	40	510
California Petro.	75	900

LINEAR PROGRAMMING MODEL

	X1	X2	X3	X4	X5	X6	X7
variables:	0	0	1	1	1	1	0
	50	80	90	120	110	40	75

Objective:	
Return:	$ 360

Constraints:								LHS	SIGN	RHS
2 Texas oil	1			1	1			2	>=	2
Foreign oil		1	1					1	<=	1
California Oil					1	1		1	=	1
Budget	480	540	680	1000	700	510	900	2890	<=	3000

SUMMARY

- To maximize returns following the given specifications, the client has to invest in:

- Dutch Shell,

- Houston Drilling,

- Texas Petroleum and

- San Diego Oil

- These stocks will yield a maximum return of $360,000.00.

THANK YOU