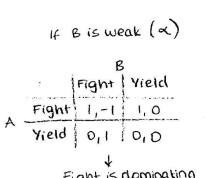
Name: Elif Centre Durgut

JD: 26493

signature: Esign

- PROBLEM SET II -

Question 1:



If B is strong (1-x)B

Fight Yield

A Fight -1, 1 1,0

Yield 0,1 0,0

d: probability that firm A assigns to firm B being weak.

Fight is dominating strategy for A.

Fight is dominating Strategy for strong B

A Fight payoff:
$$1.\alpha + (-1)(1-\alpha) = 2\alpha - 1$$
 If we compare them:

$$2\alpha - 1 = 0$$

$$\alpha = 1/2$$

If $\alpha > \frac{1}{2}$, A will fight and weak type B will not fight. - (Fight, Yield)

If $\alpha < \frac{1}{2}$, A will yield and both types of B will fight. - (Yield, Fight)

Question 2:

lo uso

If you contribute 10 USD, individual return = $\frac{M.10}{5}$ we should compare these values.

$$\frac{\text{M.10}}{5} = 10 \implies \text{M} = 5$$

If m>5: players contribute all 10 USD

If m < 5 : players do not contribute

If m = 5 : players are indifferent.

Elif Cemre Durgut - 26493 - FOIT

Question 3:

choosing cable connection: P(n) = 20 - 0.01n

choosing ASDL connection: S(n) = 5

N = 2000

n = number of people who choose P

$$T(n) = n. P(n) + (N-n). S(n)$$

$$= n(20-0.01n) + (2000-n).5$$

For social gain to be positive:

n < 750 | : Socialy optimal

number of residents with the cable connection

But the cost is 50 TL. If there was no cost,

p(n+i) 75(n)

50 TL → means 5 mbps. Because question says that the value of 1 mbps is: 10 TL.

20-0.01(n+1) >5

P(n+i) - cost > s(n)

n< 1499

20-0.01(11) -5 > 5

n<999 : actual number of prople who will choose cable int.

r: rate of return

To sustain cooperating, defecting option should be cusadvantaged. If row player defects once, returned value should be less than the lost qain = 10-5=5 lost = 5-(-i)=6

$$PV = \frac{6}{1+\Gamma} \rightarrow 5 < \frac{6}{1+\Gamma} \rightarrow \boxed{\Gamma < 0.2} \rightarrow 7$$
 should be less than 0.2 so that defecting is not a good option for row player

If the game has a probability p to end, row player becomes more likely to cooperate. Because, in the last action row would choose defecting and gain 5 without lost.

Question 5:

$$E = \begin{cases} s(Low) = 0, & s(High) = 1 \\ w(s = 0) = A, & w(s = 1) = B, \end{cases}$$

$$Prob(a = Low|s = 1) = 0$$

we should add this order because employer should believe that education is a signal. Because if s/he does not believe, then there is no reason to educate.