

PERTEMUAN 10

TEORI PERMAINAN DAN PERILAKU STRATEGIS

POKOK BAHASAN

10.1. Perilaku Strategis

10.2. Dilema Tahanan

10.3. Perluasan Teori Permainan

10.4. Persaingan Internasional

10.5. Permainan Berangkai

10.1. Perilaku Strategis

- Perilaku strategis = keputusan yang diambil setelah mempertimbangkan semua reaksi yang mungkin dilakukan oleh perusahaan pesaing
 - Hasil yang saling terkait
- Teori Permainan
 - Pemain
 - Strategi
 - Matriks hasil (Payoff matrix)

Perilaku Strategis

- Jenis Permainan
 - Zero-sum games
 - Nonzero-sum games
- Nash Equilibrium
 - Setiap pemain memilih sebuah strategi yang optimal dengan asumsi pemain lain melakukan strategi tertentu
 - Sebuah strategi dikatakan dominan jika sudah optimal tanpa menghiraukan apa yang dilakukan pemain lain

Contoh 1: Periklanan

		Firm B	
		Advertise	Don't Advertise
Firm A	Advertise	(4, 3)	(5, 1)
	Don't Advertise	(2, 5)	(3, 2)

Contoh 1: Periklanan

Strategi apakah yang optimal untuk Perusahaan A jika Perusahaan B memilih untuk mengiklankan produknya?

		Firm B	
		Advertise	Don't Advertise
Firm A	Advertise	(4, 3)	(5, 1)
	Don't Advertise	(2, 5)	(3, 2)

Contoh 1: Periklanan

Strategi apakah yang optimal untuk Perusahaan A jika Perusahaan B memilih untuk mengiklankan produknya?

Jika Perusahaan A memilih untuk mengiklankan, hasilnya adalah 4. Jika tidak, hasilnya 2. Jadi strategi yang optimal adalah mengiklankan produknya.

		Firm B	
		Advertise	Don't Advertise
Firm A	Advertise	(4, 3)	(5, 1)
	Don't Advertise	(2, 5)	(3, 2)

Contoh 1: Periklanan

Strategi apakah yang optimal untuk Perusahaan A jika Perusahaan B memilih untuk tidak mengiklankan?

		Firm B	
		Advertise	Don't Advertise
Firm A	Advertise	(4, 3)	(5, 1)
	Don't Advertise	(2, 5)	(3, 2)

Contoh 1: Periklanan

Strategi apakah yang optimal untuk Perusahaan A jika Perusahaan B memilih untuk tidak mengiklankan?

Jika Perusahaan A memilih untuk mengiklankan, hasilnya adalah 5. Jika tidak, hasilnya 3. Jadi sekali lagi, strategi yang optimal adalah mengiklankan produknya.

		Firm B	
		Advertise	Don't Advertise
Firm A	Advertise	(4, 3)	(5, 1)
	Don't Advertise	(2, 5)	(3, 2)

Contoh 1: Periklanan

Tanpa menghiraukan apa yang dilakukan Perusahaan B, strategi optimal untuk Perusahaan A adalah mengiklankan produknya. Jadi, strategi dominan untuk Perusahaan A adalah mengiklankan produknya.

		Firm B	
		Advertise	Don't Advertise
Firm A	Advertise	(4, 3)	(5, 1)
	Don't Advertise	(2, 5)	(3, 2)

Contoh 1: Periklanan

Strategi apakah yang optimal untuk Perusahaan B jika Perusahaan A memilih untuk mengiklankan produknya?

		Firm B	
		Advertise	Don't Advertise
Firm A	Advertise	(4, 3)	(5, 1)
	Don't Advertise	(2, 5)	(3, 2)

Contoh 1: Periklanan

Strategi apakah yang optimal untuk Perusahaan B jika Perusahaan A memilih untuk mengiklankan produknya?

Jika Perusahaan B memilih untuk mengiklankan, hasilnya adalah 3. Jika tidak, hasilnya 1. Jadi strategi yang optimal adalah mengiklankan produknya.

		Firm B	
		Advertise	Don't Advertise
Firm A	Advertise	(4, 3)	(5, 1)
	Don't Advertise	(2, 5)	(3, 2)

Contoh 1: Periklanan

Strategi apakah yang optimal untuk Perusahaan B jika Perusahaan A memilih untuk tidak mengiklankan?

		Firm B	
		Advertise	Don't Advertise
Firm A	Advertise	(4, 3)	(5, 1)
	Don't Advertise	(2, 5)	(3, 2)

Contoh 1: Periklanan

Strategi apakah yang optimal untuk Perusahaan B jika Perusahaan A memilih untuk tidak mengiklankan?

Jika Perusahaan B memilih untuk mengiklankan, hasilnya adalah 5. Jika tidak, hasilnya 2. Jadi sekali lagi, strategi yang optimal adalah mengiklankan produknya

		Firm B	
		Advertise	Don't Advertise
Firm A	Advertise	(4, 3)	(5, 1)
	Don't Advertise	(2, 5)	(3, 2)

Contoh 1: Periklanan

Tanpa menghiraukan apa yang dilakukan Perusahaan A, strategi optimal untuk Perusahaan B adalah mengiklankan produknya. Jadi, strategi dominan untuk Perusahaan B adalah mengiklankan produknya.

		Firm B	
		Advertise	Don't Advertise
Firm A	Advertise	(4, 3)	(5, 1)
	Don't Advertise	(2, 5)	(3, 2)

Contoh 1: Periklanan

Strategi dominan untuk Perusahaan A adalah mengiklankan produknya, demikian pula strategi dominan Perusahaan B. Keseimbangan Nash untuk kedua perusahaan adalah mengiklankan produknya.

		Firm B	
		Advertise	Don't Advertise
Firm A	Advertise	(4, 3)	(5, 1)
	Don't Advertise	(2, 5)	(3, 2)

Contoh 2: Periklanan

		Firm B	
		Advertise	Don't Advertise
Firm A	Advertise	(4, 3)	(5, 1)
	Don't Advertise	(2, 5)	(6, 2)

Contoh 2: Periklanan

Strategi apakah yang optimal untuk Perusahaan A jika Perusahaan B memilih untuk mengiklankan produknya?

		Firm B	
		Advertise	Don't Advertise
Firm A	Advertise	(4, 3)	(5, 1)
	Don't Advertise	(2, 5)	(6, 2)

Contoh 2: Periklanan

Strategi apakah yang optimal untuk Perusahaan A jika Perusahaan B memilih untuk mengiklankan produknya?

Jika Perusahaan A memilih untuk mengiklankan, hasilnya adalah 4. Jika tidak, hasilnya 2. Jadi strategi yang optimal adalah mengiklankan produknya.

		Firm B	
		Advertise	Don't Advertise
Firm A	Advertise	(4, 3)	(5, 1)
	Don't Advertise	(2, 5)	(6, 2)

Contoh 2: Periklanan

Strategi apakah yang optimal untuk Perusahaan A jika Perusahaan B memilih untuk tidak mengiklankan?

		Firm B	
		Advertise	Don't Advertise
Firm A	Advertise	(4, 3)	(5, 1)
	Don't Advertise	(2, 5)	(6, 2)

Contoh 2: Periklanan

Strategi apakah yang optimal untuk Perusahaan A jika Perusahaan B memilih untuk tidak mengiklankan?

Jika Perusahaan A memilih untuk mengiklankan, hasilnya adalah 5. Jika tidak, hasilnya 6. Jadi strategi yang optimal adalah tidak mengiklankan produknya.

		Firm B	
		Advertise	Don't Advertise
Firm A	Advertise	(4, 3)	(5, 1)
	Don't Advertise	(2, 5)	(6, 2)

Contoh 2: Periklanan

Strategi yang optimal untuk Perusahaan A tergantung pada strategi yang dipilih oleh Perusahaan B. Jadi, Perusahaan A tidak memiliki strategi yang dominan.

		Firm B	
		Advertise	Don't Advertise
Firm A	Advertise	(4, 3)	(5, 1)
	Don't Advertise	(2, 5)	(6, 2)

Contoh 2: Periklanan

Strategi apakah yang optimal untuk Perusahaan B jika Perusahaan A memilih untuk mengiklankan produknya?

		Firm B	
		Advertise	Don't Advertise
Firm A	Advertise	(4, 3)	(5, 1)
	Don't Advertise	(2, 5)	(6, 2)

Contoh 2: Periklanan

Strategi apakah yang optimal untuk Perusahaan B jika Perusahaan A memilih untuk mengiklankan produknya?

Jika Perusahaan B memilih untuk mengiklankan, hasilnya adalah 3. Jika tidak, hasilnya 1. Jadi strategi yang optimal adalah mengiklankan produknya.

		Firm B	
		Advertise	Don't Advertise
Firm A	Advertise	(4, 3)	(5, 1)
	Don't Advertise	(2, 5)	(6, 2)

Contoh 2: Periklanan

Strategi apakah yang optimal untuk Perusahaan B jika Perusahaan A memilih untuk tidak mengiklankan?

		Firm B	
		Advertise	Don't Advertise
Firm A	Advertise	(4, 3)	(5, 1)
	Don't Advertise	(2, 5)	(6, 2)

Contoh 2: Periklanan

Strategi apakah yang optimal untuk Perusahaan B jika Perusahaan A memilih untuk tidak mengiklankan?

Jika Perusahaan B memilih untuk mengiklankan, hasilnya adalah 5. Jika tidak, hasilnya 2. Jadi sekali lagi strategi yang optimal adalah mengiklankan produknya.

		Firm B	
		Advertise	Don't Advertise
Firm A	Advertise	(4, 3)	(5, 1)
	Don't Advertise	(2, 5)	(6, 2)

Contoh 2: Periklanan

Tanpa menghiraukan apa yang dilakukan Perusahaan A, strategi optimal untuk Perusahaan B adalah mengiklankan produknya. Jadi, strategi dominan untuk Perusahaan B adalah mengiklankan produknya.

		Firm B	
		Advertise	Don't Advertise
Firm A	Advertise	(4, 3)	(5, 1)
	Don't Advertise	(2, 5)	(6, 2)

Contoh 2: Periklanan

Strategi dominan untuk Perusahaan B adalah mengiklankan produknya. Jika Perusahaan B memilih untuk mengiklankan, maka strategi optimal untuk Perusahaan A adalah mengiklankan. Keseimbangan Nash untuk kedua perusahaan adalah mengiklankan produknya.

		Firm B	
		Advertise	Don't Advertise
Firm A	Advertise	(4, 3)	(5, 1)
	Don't Advertise	(2, 5)	(3, 2)

10.2. Dilema Tahanan

Dua orang tersangka ditangkap atas tuduhan perampokan bersenjata. Mereka segera dipisahkan. Jika terbukti, mereka akan dipenjara selama 10 tahun. Namun, bukti yang ada tidak cukup untuk menuduh mereka melakukan tindakan kriminal lebih dari penguasaan barang curian yang hanya mendapat ancaman penjara selama 1 tahun.

Maka, kepada mereka sang jaksa berkata: Jika kamu mengaku dan temanmu tidak, kamu akan dibebaskan. Jika kamu tidak mengaku dan temanmu mengaku, maka kamu akan dipenjara selama 10 tahun. Jika kalian berdua mengaku, maka kalian akan dipenjara selama 5 tahun.

Dilema Tahanan

Matriks Hasil (nilai negatif)

		Individual B	
		Confess	Don't Confess
Individual A	Confess	(5, 5)	(0, 10)
	Don't Confess	(10, 0)	(1, 1)

Dilema Tahanan

Strategi Dominan
Keduanya Mengaku
(Keseimbangan Nash)

		Individual B	
		Confess	Don't Confess
Individual A	Confess	(5, 5)	(0, 10)
	Don't Confess	(10, 0)	(1, 1)

Dilema Tahanan

Penerapan: Persaingan Harga

		Firm B	
		Low Price	High Price
Firm A	Low Price	(2, 2)	(5, 1)
	High Price	(1, 5)	(3, 3)

Dilema Tahanan

Penerapan: Persaingan Harga

Strategi Dominan: Harga Rendah

		Firm B	
		Low Price	High Price
Firm A	Low Price	(2, 2)	(5, 1)
	High Price	(1, 5)	(3, 3)

Dilema Tahanan

Penerapan: Persaingan Bukan Harga

		Firm B	
		Advertise	Don't Advertise
Firm A	Advertise	(2, 2)	(5, 1)
	Don't Advertise	(1, 5)	(3, 3)

Dilema Tahanan

Penerapan: Persaingan Bukan Harga

Strategi Dominan: Mengiklankan Produk

		Firm B	
		Advertise	Don't Advertise
Firm A	Advertise	(2, 2)	(5, 1)
	Don't Advertise	(1, 5)	(3, 3)

Dilema Tahanan

Penerapan: Kecurangan Kartel

		Firm B	
		Cheat	Don't Cheat
Firm A	Cheat	(2, 2)	(5, 1)
	Don't Cheat	(1, 5)	(3, 3)

Dilema Tahanan

Penerapan: Kecurangan Kartel

Strategi Dominan: Berbuat Curang

		Firm B	
		Cheat	Don't Cheat
Firm A	Cheat	(2, 2)	(5, 1)
	Don't Cheat	(1, 5)	(3, 3)

10.3. Perluasan Teori Permainan

- Permainan yang Berulang
 - Banyak tindakan yang berkaitan dan tindakan balasan oleh setiap pemain
- Strategi Tit-For-Tat
 - Lakukan kepada lawanmu apa yang lawanmu lakukan kepadamu

Perluasan Teori Permainan

- Strategi Tit-For-Tat
 - Sekumpulan pemain yang tetap
 - Jumlah pemain sedikit
 - Mudah mendeteksi kecurangan
 - Kondisi permintaan dan biaya stabil
 - Permainan berulang tanpa batas

Perluasan Teori Permainan

- Strategi Ancaman
 - Kredibilitas
 - Reputasi
 - Komitmen
 - Contoh: Pencegahan Masuk

Pencegahan Masuk (Entry Deterrence)

No Credible Entry Deterrence		Firm B	
		Enter	Do Not Enter
Firm A	Low Price	(4, -2)	(6, 0)
	High Price	(7, 2)	(10, 0)

Credible Entry Deterrence		Firm B	
		Enter	Do Not Enter
Firm A	Low Price	(4, -2)	(6, 0)
	High Price	(3, 2)	(8, 0)

Pencegahan Masuk

No Credible Entry Deterrence		Firm B	
		Enter	Do Not Enter
Firm A	Low Price	(4, -2)	(6, 0)
	High Price	(7, 2)	(10, 0)

Credible Entry Deterrence		Firm B	
		Enter	Do Not Enter
Firm A	Low Price	(4, -2)	(6, 0)
	High Price	(3, 2)	(8, 0)

10.4. Persaingan Internasional

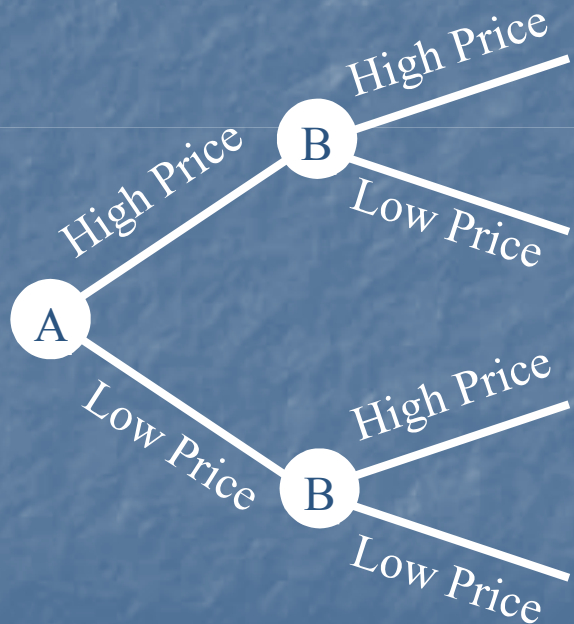
Boeing Versus Airbus Industrie

		Airbus	
		Produce	Don't Product
Boeing	Produce	$(-10, -10)$	$(100, 0)$
	Don't Produce	$(0, 100)$	$(0, 0)$

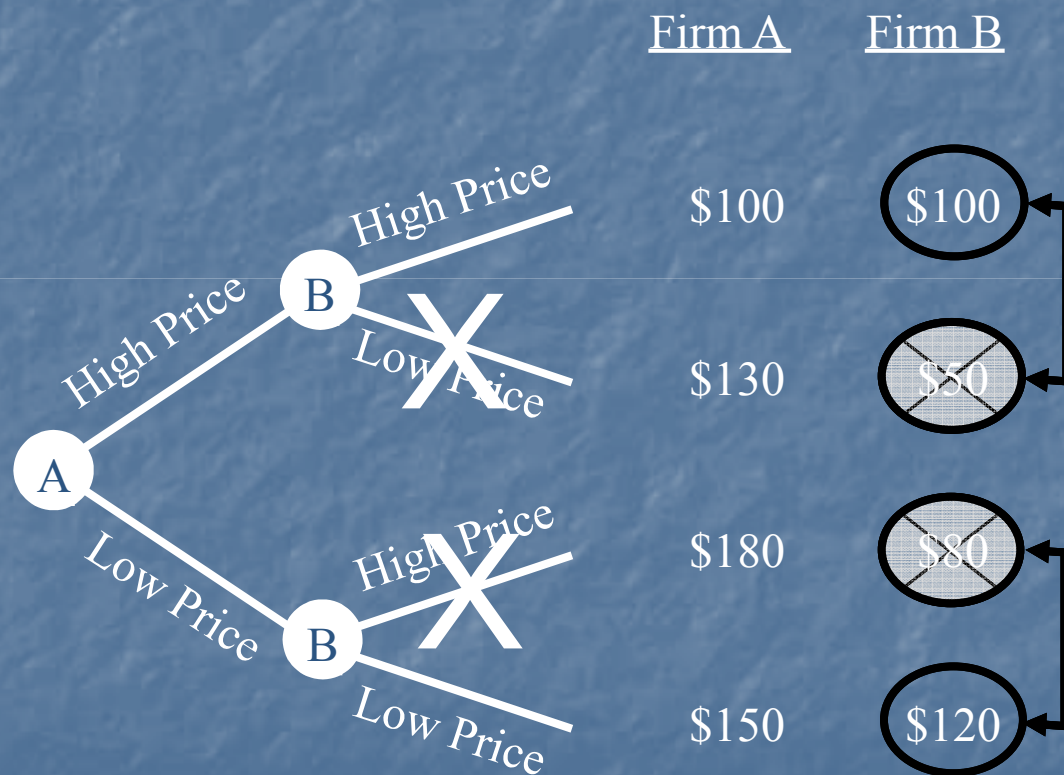
10.5. Permainan Berangkai (Sequential Games)

- Serangkaian tindakan oleh pesaing
- Hasil tergantung pada seluruh rangkaian
- Pohon keputusan
 - Persetujuan keputusan (Decision nodes)
 - Cabang-cabang (alternatif)
- Penyelesaian melalui pembalikan induksi
 - Dari keputusan akhir ke keputusan awal

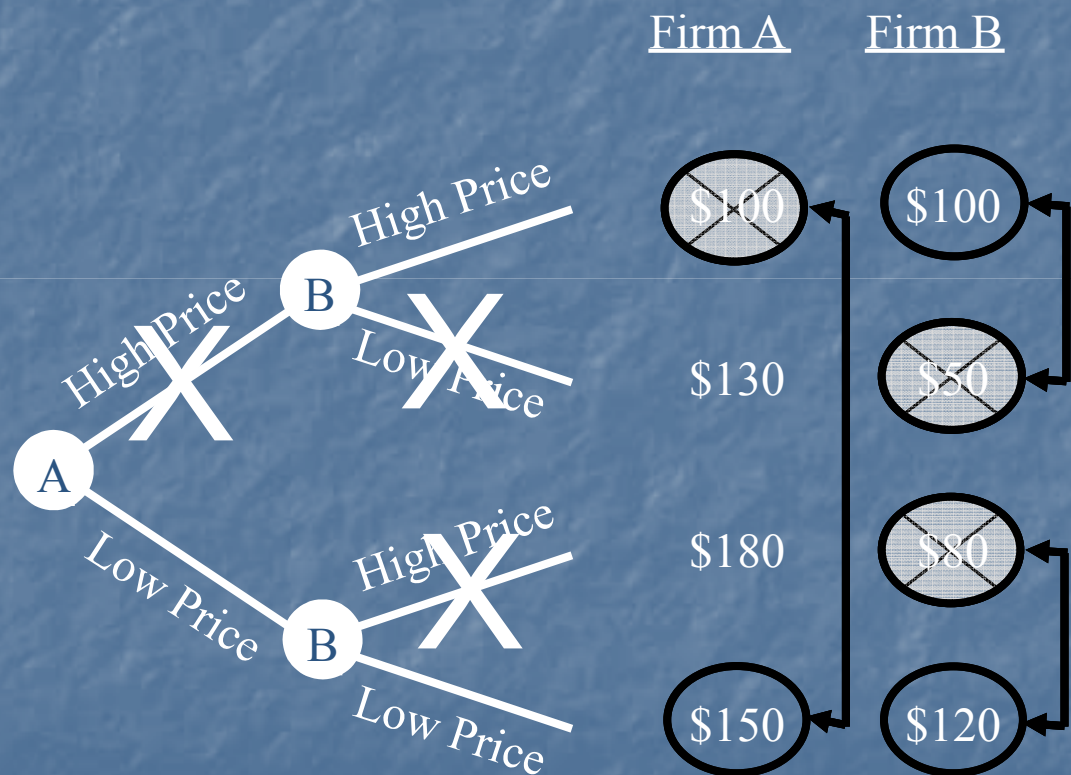
Permainan Strategi Harga-Tinggi, Harga-Rendah

	<u>Firm A</u>	<u>Firm B</u>
 <pre> graph LR A((A)) -- High Price --> B1((B)) A -- Low Price --> B2((B)) B1 -- High Price --> P1["\$100 \$100"] B1 -- Low Price --> P2["\$130 \$50"] B2 -- High Price --> P3["\$180 \$80"] B2 -- Low Price --> P4["\$150 \$120"] </pre>	\$100	\$100
	\$130	\$50
	\$180	\$80
	\$150	\$120

Permainan Strategi Harga-Tinggi, Harga-Rendah

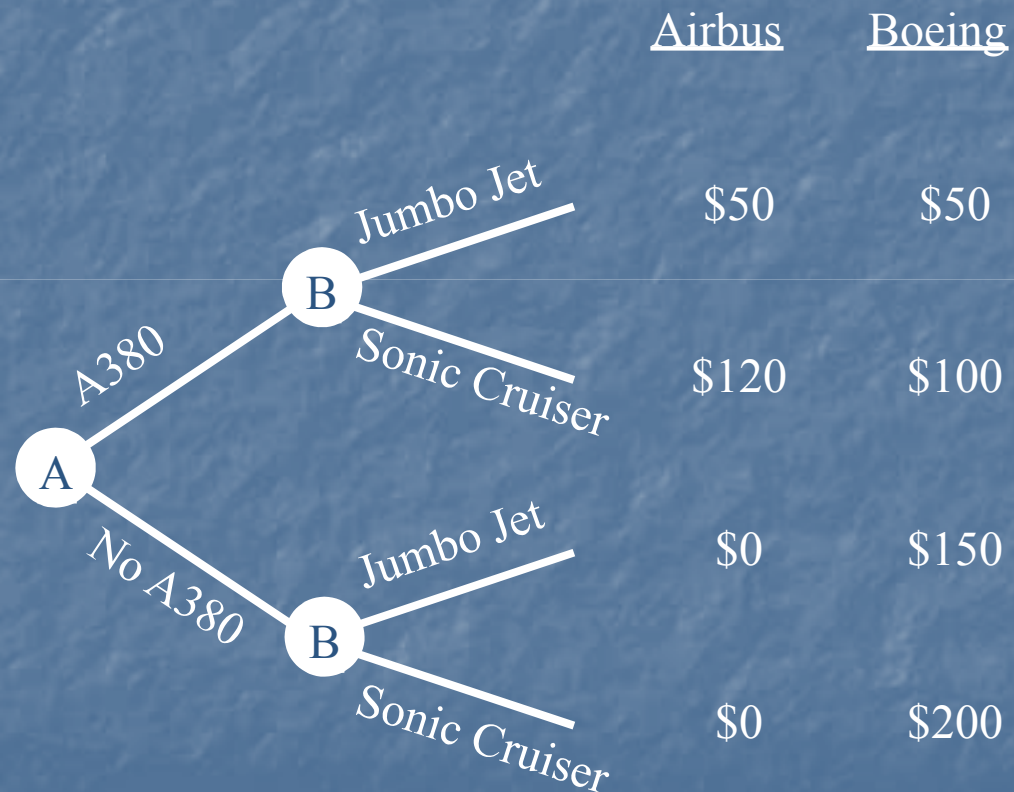


Permainan Strategi Harga-Tinggi, Harga-Rendah

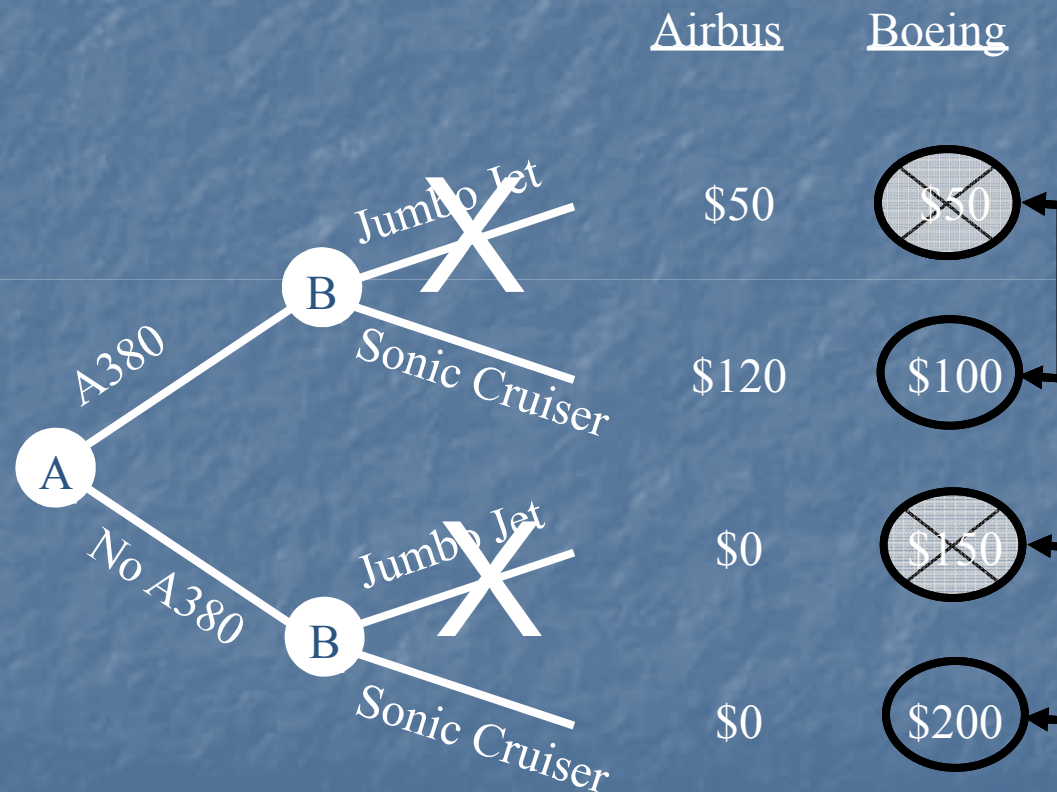


Penyelesaian:
Kedua
perusahaan
memilih harga
rendah.

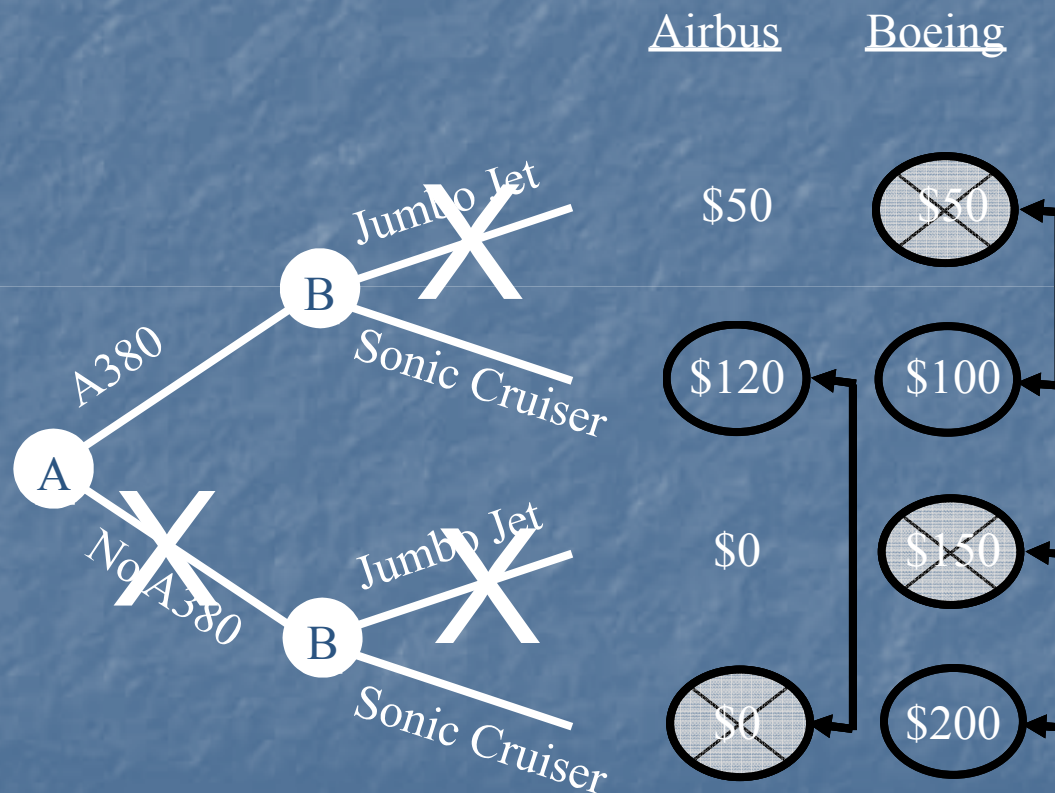
Airbus dan Boeing



Airbus dan Boeing

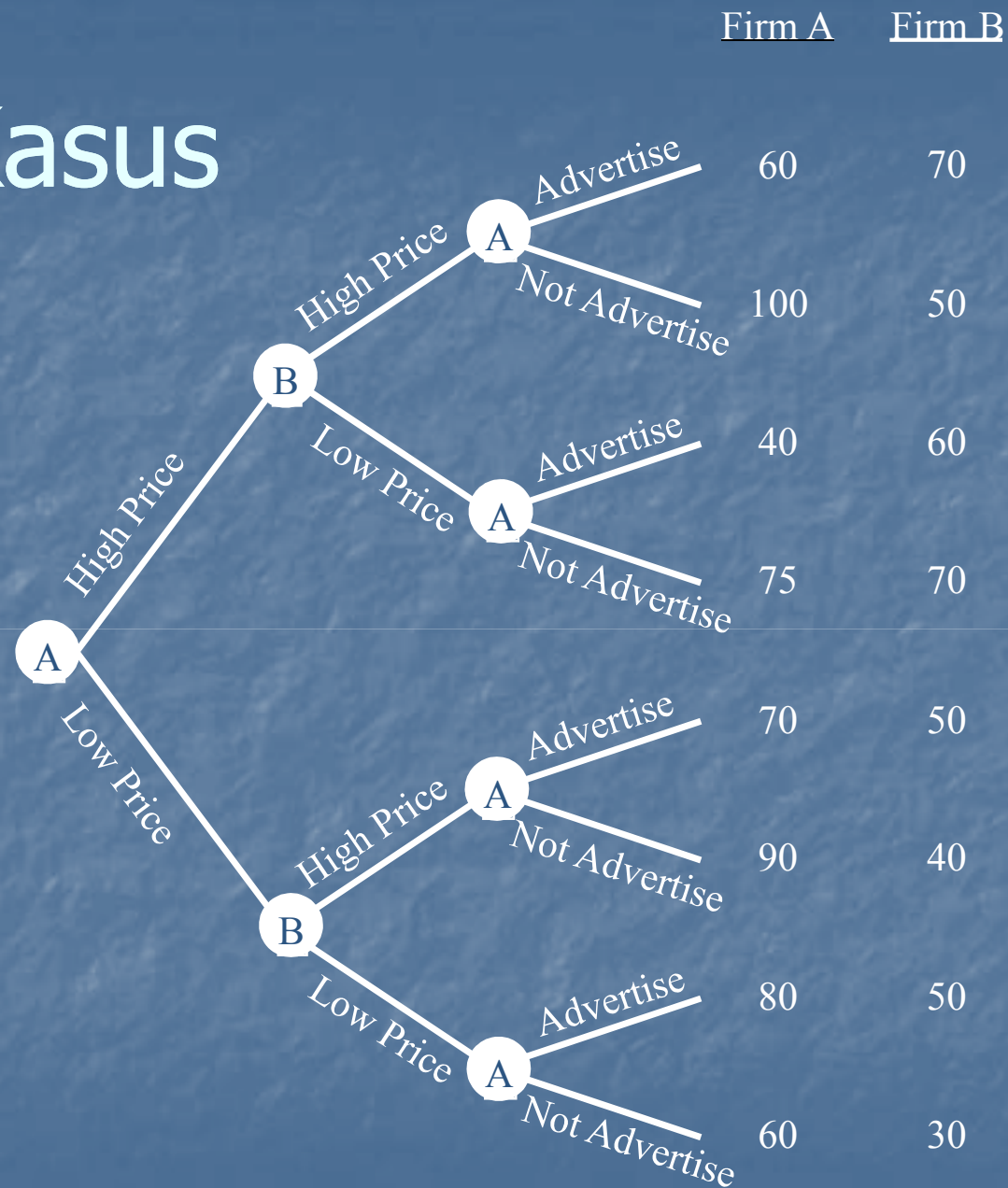


Airbus dan Boeing



Penyelesaian:
Airbus membangun
A380 dan Boeing
membangun
Sonic Cruiser.

Studi Kasus



LATIHAN 10

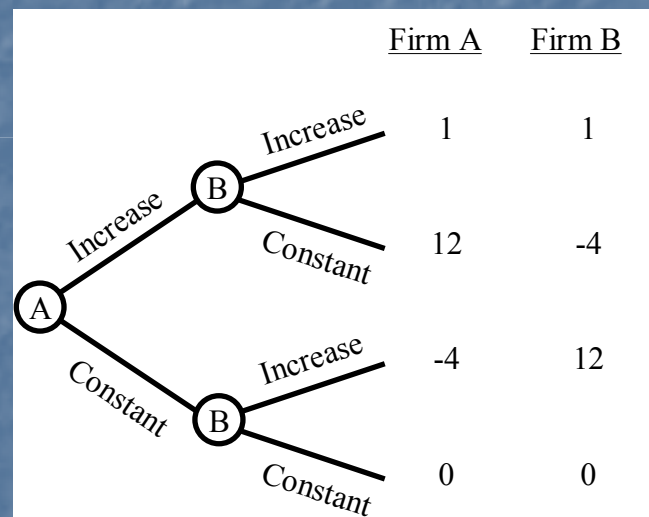
1. A market has only two sellers. They are both trying to decide on a pricing strategy. If both firms charge a high price, then each firm will experience a 10% increase in profits. If both firms charge a low price, then each firm will experience a 5% decrease in profits. If Firm 1 charges a low price and Firm 2 charges a high price, then Firm 1 will experience a 6% increase in profits and Firm 2 will experience a 2% decrease in profits. If Firm 2 charges a low price and Firm 1 charges a high price, then Firm 2 will experience a 7% increase in profits and Firm 1 will experience a 3% decrease in profits.
 - (i) Construct a payoff matrix for this game.
 - (ii) Determine whether each firm has a dominant strategy and, if it does, identify the strategy.
 - (iii) Determine the optimal strategy for each firm.
 - (iv) Determine the Nash equilibrium.
 - (v) Is this a prisoners' dilemma? How do you know?

2. A market has only two sellers. They are both trying to decide on a pricing strategy. If both firms charge a high price, then each firm will experience a 5% decrease in profits. If both firms charge a low price, then each firm will experience a 2% increase in profits. If Firm 1 charges a high price and Firm 2 charges a low price, then Firm 1 will experience a 1% increase in profits and Firm 2 will experience a 4% increase in profits. If Firm 2 charges a high price and Firm 1 charges a low price, then Firm 2 will experience a 3% increase in profits and Firm 1 will experience a 4% increase in profits.
- (i) Construct a payoff matrix for this game.
 - (ii) Determine whether each firm has a dominant strategy and, if it does, identify the strategy.
 - (iii) Determine the optimal strategy for each firm.
 - (iv) Determine the Nash equilibrium.
 - (v) Is this a prisoners' dilemma? How do you know?

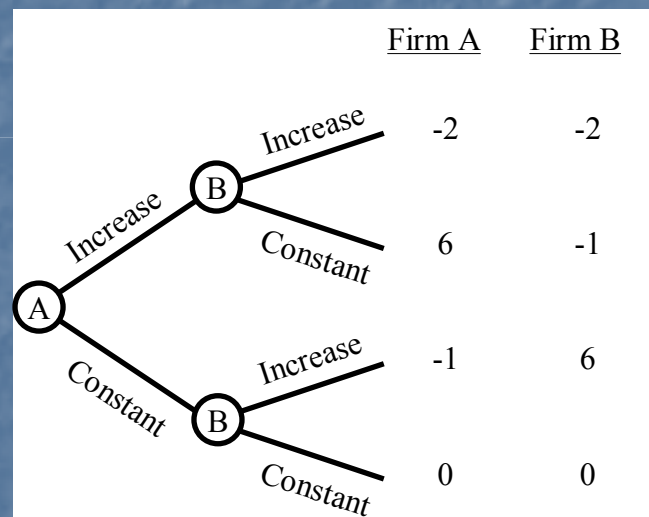
3. A market has only two sellers. They are both trying to decide on a pricing strategy. If both firms charge a high price, then each firm will experience a 5% increase in profits. If both firms charge a low price, then each firm will experience a 3% increase in profits. If Firm 1 charges a high price and Firm 2 charges a low price, then Firm 1 will experience a 1% increase in profits and Firm 2 will experience a 6% increase in profits. If Firm 2 charges a high price and Firm 1 charges a low price, then Firm 2 will experience a 2% increase in profits and Firm 1 will experience a 7% increase in profits.
- (i) Construct a payoff matrix for this game.
 - (ii) Determine whether each firm has a dominant strategy and, if it does, identify the strategy.
 - (iii) Determine the optimal strategy for each firm.
 - (iv) Determine the Nash equilibrium.
 - (v) Is this a prisoners' dilemma? How do you know?

4. A market has only two sellers. They are both trying to decide on a pricing strategy. If both firms charge a high price, then each firm will experience a 5% increase in profits. If both firms charge a low price, then each firm will experience a 3% decrease in profits. If Firm 1 charges a high price and Firm 2 charges a low price, then Firm 1 will experience a 4% decrease in profits and Firm 2 will experience a 6% increase in profits. If Firm 2 charges a high price and Firm 1 charges a low price, then Firm 2 will experience a 5% decrease in profits and Firm 1 will experience a 7% increase in profits.
- (i) Construct a payoff matrix for this game.
 - (ii) Determine whether each firm has a dominant strategy and, if it does, identify the strategy.
 - (iii) Determine the optimal strategy for each firm.
 - (iv) Determine the Nash equilibrium.
 - (v) Is this a prisoners' dilemma? How do you know?

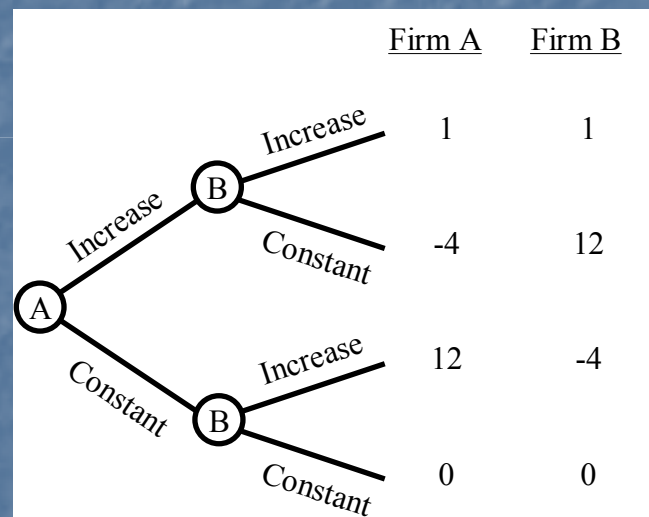
5. Firm A and Firm B operate retail malls. Both are trying to determine whether to increase advertising budgets during the holiday season or to keep them constant. Because of contract cycles, Firm A will have to make a commitment regarding an advertising budget before Firm B. Their alternatives and payoffs are displayed in the decision tree diagram. Use this information to determine each firm's optimal strategy and anticipated payoff.



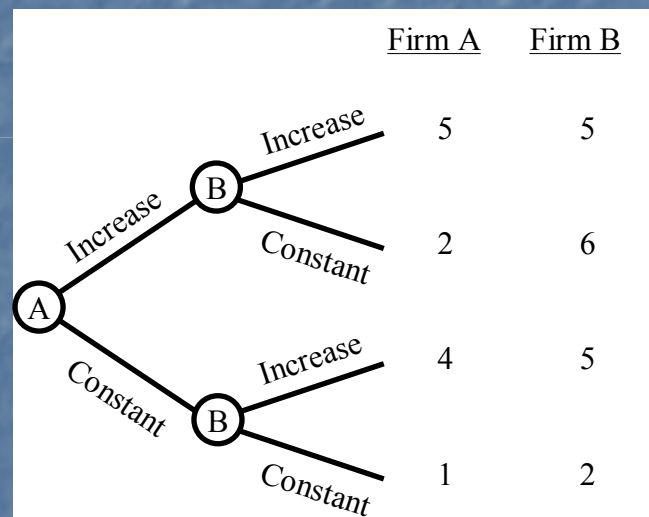
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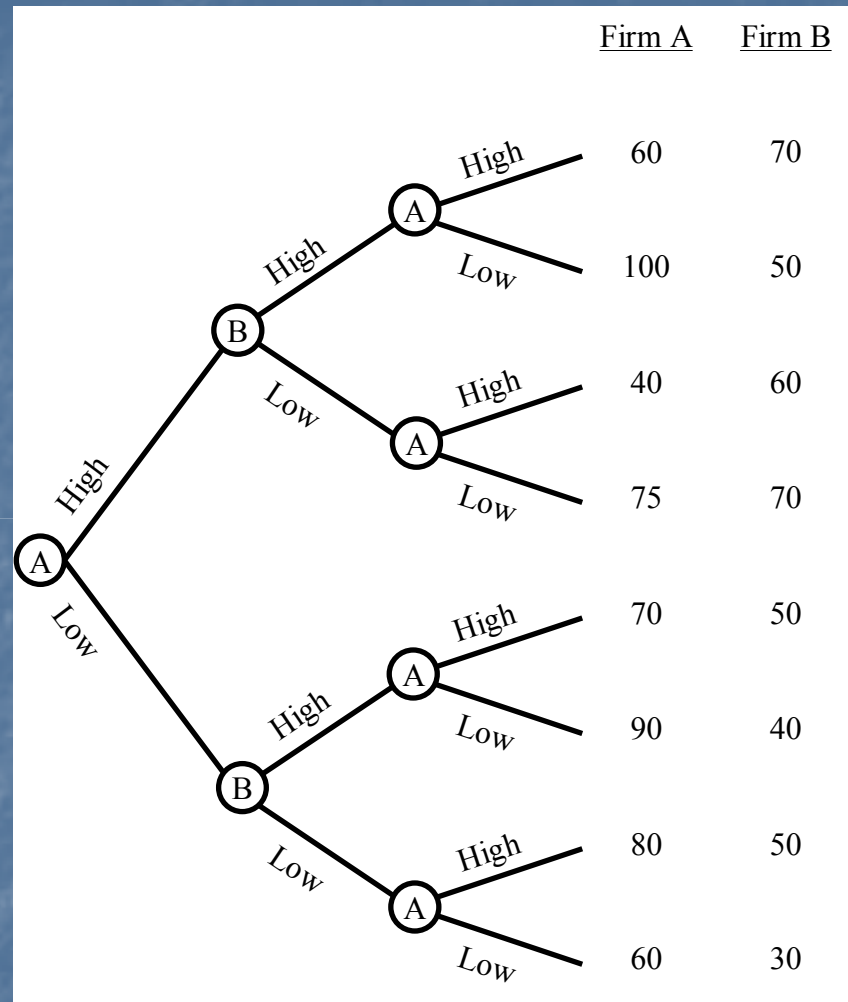
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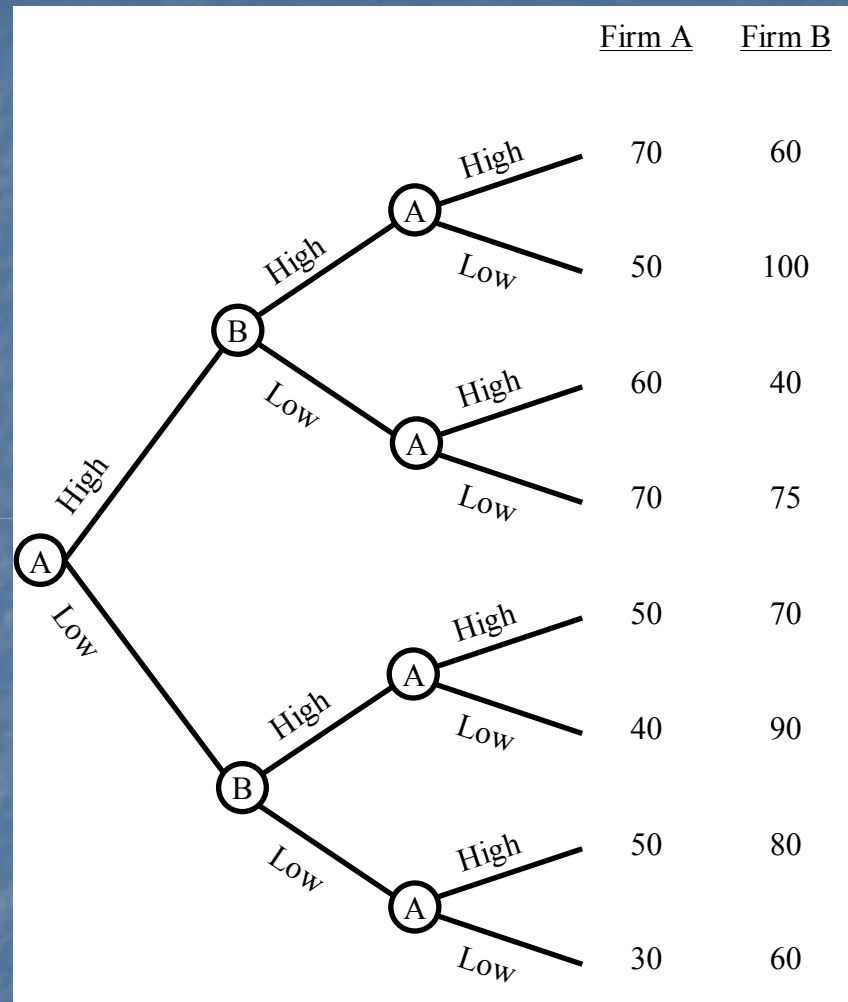
8. Firm A and Firm B operate retail malls. Both are trying to determine whether to increase advertising budgets during the holiday season or to keep them constant. Because of contract cycles, Firm A will have to make a commitment regarding an advertising budget before Firm B. Their alternatives and payoffs are displayed in the decision tree diagram. Use this information to determine each firm's optimal strategy and anticipated payoff.



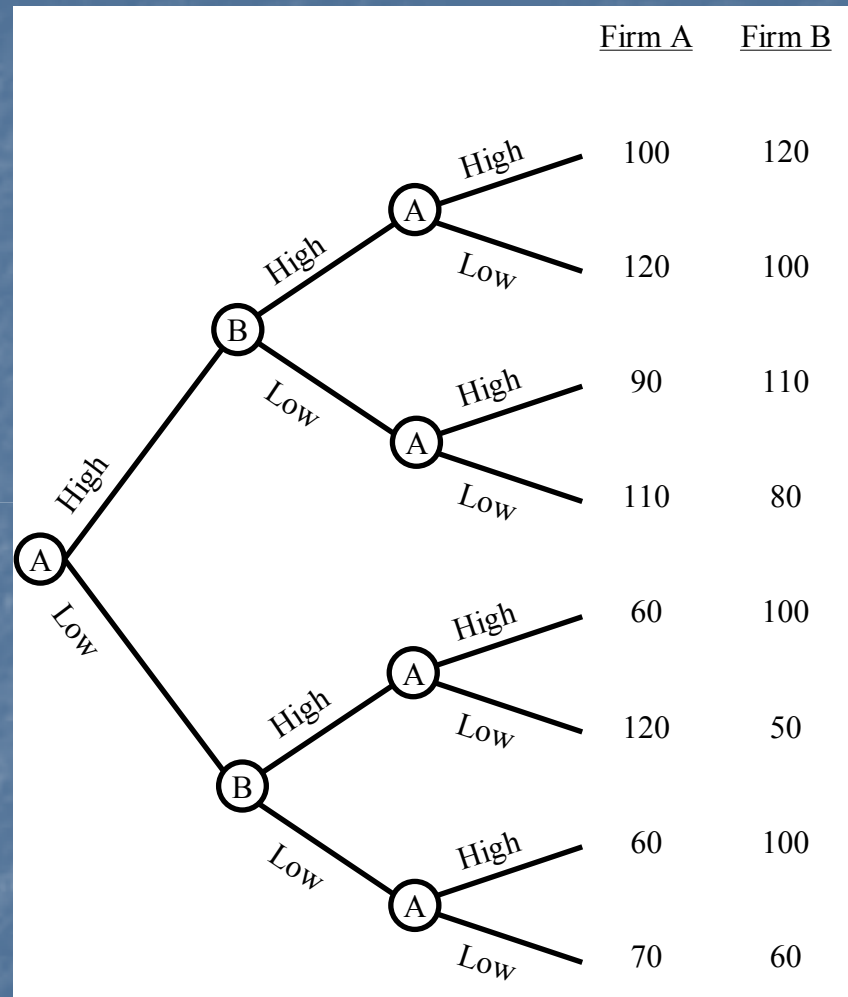
9. A pair of duopolists, Firm A and Firm B, manufacture seasonal toys. Both are planning their pricing strategies for the coming holiday season. The firms will choose between a low price (**Low**) and a high price (**High**). Firm A has a more flexible production and distribution system than Firm B and is therefore able to begin the season with one pricing strategy and then adopt a different strategy in mid-season. While Firm B is unable to change its strategy in mid-season, it can delay making a choice until after Firm A has announced its prices for the first part of the season. The firms' alternatives and payoffs are displayed in the decision tree diagram. Use this information to determine each firm's optimal strategy and anticipated payoff.



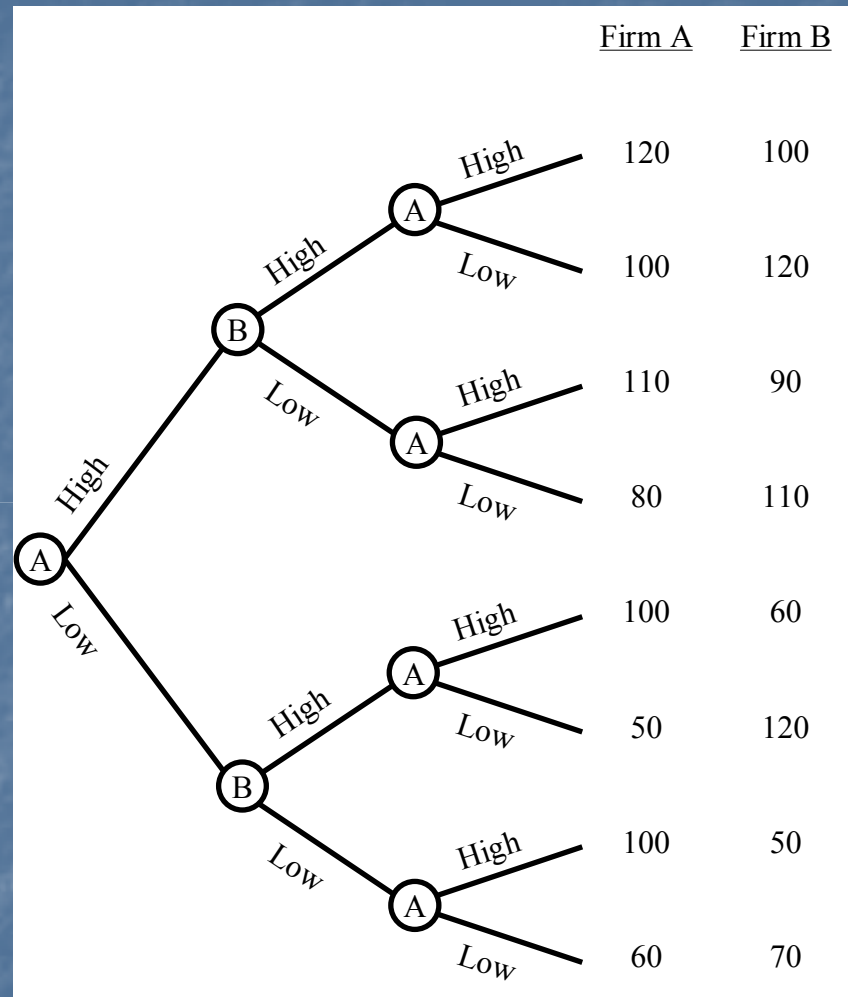
10. A pair of duopolists, Firm A and Firm B, manufacture seasonal toys. Both are planning their pricing strategies for the coming holiday season. The firms will choose between a low price (**Low**) and a high price (**High**). Firm A has a more flexible production and distribution system than Firm B and is therefore able to begin the season with one pricing strategy and then adopt a different strategy in mid-season. While Firm B is unable to change its strategy in mid-season, it can delay making a choice until after Firm A has announced its prices for the first part of the season. The firms' alternatives and payoffs are displayed in the decision tree diagram. Use this information to determine each firm's optimal strategy and anticipated payoff.



11. A pair of duopolists, Firm A and Firm B, manufacture seasonal toys. Both are planning their pricing strategies for the coming holiday season. The firms will choose between a low price (**Low**) and a high price (**High**). Firm A has a more flexible production and distribution system than Firm B and is therefore able to begin the season with one pricing strategy and then adopt a different strategy in mid-season. While Firm B is unable to change its strategy in mid-season, it can delay making a choice until after Firm A has announced its prices for the first part of the season. The firms' alternatives and payoffs are displayed in the decision tree diagram. Use this information to determine each firm's optimal strategy and anticipated payoff.



12. A pair of duopolists, Firm A and Firm B, manufacture seasonal toys. Both are planning their pricing strategies for the coming holiday season. The firms will choose between a low price (**Low**) and a high price (**High**). Firm A has a more flexible production and distribution system than Firm B and is therefore able to begin the season with one pricing strategy and then adopt a different strategy in mid-season. While Firm B is unable to change its strategy in mid-season, it can delay making a choice until after Firm A has announced its prices for the first part of the season. The firms' alternatives and payoffs are displayed in the decision tree diagram. Use this information to determine each firm's optimal strategy and anticipated payoff.



13. Two grocery stores compete against each other in a community. Both are considering an increase in advertising expenditures. Their interdependent alternatives are described by the payoff matrix.

- (i) Determine whether each firm has a dominant strategy and, if it does, identify the strategy.
- (ii) Determine the optimal strategy for each firm.
- (iii) Determine the Nash equilibrium.
- (iv) Is this a prisoners' dilemma? How do you know?

		Firm 2	
		Advertise	Don't Advertise
Firm 1	Advertise	$(-1, -2)$	$(3, -4)$
	Don't Advertise	$(-2, 2)$	$(0, 0)$

14. Two grocery stores compete against each other in a community. Both are considering an increase in advertising expenditures. Their interdependent alternatives are described by the payoff matrix.
- (i) Determine whether each firm has a dominant strategy and, if it does, identify the strategy.
 - (ii) Determine the optimal strategy for each firm.
 - (iii) Determine the Nash equilibrium.
 - (iv) Is this a prisoners' dilemma? How do you know?

		Firm 2	
		Advertise	Don't Advertise
Firm 1	Advertise	(5,3)	(6,5)
	Don't Advertise	(4,5)	(2,3)

15. Two grocery stores compete against each other in a community. Both are considering an increase in advertising expenditures. Their interdependent alternatives are described by the payoff matrix.
- (i) Determine whether each firm has a dominant strategy and, if it does, identify the strategy.
 - (ii) Determine the optimal strategy for each firm.
 - (iii) Determine the Nash equilibrium.
 - (iv) Is this a prisoners' dilemma? How do you know?

		Firm 2	
		Advertise	Don't Advertise
Firm 1	Advertise	(10,5)	(6,7)
	Don't Advertise	(6,3)	(7,4)

16. Two grocery stores compete against each other in a community. Both are considering an increase in advertising expenditures. Their interdependent alternatives are described by the payoff matrix.

- (i) Determine whether each firm has a dominant strategy and, if it does, identify the strategy.
- (ii) Determine the optimal strategy for each firm.
- (iii) Determine the Nash equilibrium.
- (iv) Is this a prisoners' dilemma? How do you know?

		Firm 2	
		Advertise	Don't Advertise
Firm 1	Advertise	(7,5)	(6,4)
	Don't Advertise	(9,6)	(5,5)