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A study of Lotus 1-2-3 software

Karen Draeger

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NORTHERN ILLINOIS UNIVERSITY

A Study of Lotus 1-2-3 Software

A Project submitted to the University Honors Program in Partial Fulfillment of the Requirements of the Baccalaureate Degree With University Honors

Department of Business Systems and Analysis

by

Karen Draeger DeKalb, Illinois May 1987

Diane Drog Bus, Suptema E Analysis Approved: Department of: May 1987 Date:

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UNDERSTANDING AND USING LOTUS 1-2-3

It was my goal to learn how to use the Lotus 1-2-3 software by using Steven C. Ross's book <u>Understanding and Using Lotus</u> 1-2-3. I chose to learn a spreadsheet operation because of its versatility. Spreadsheet programs are now found in a wide range of applications. They allow the manipulation of complex groups of numbers which makes equations and formulas much less threatening. Spreadsheets can turn hours of hand calculations into seconds of machine time, which allows the investigation of many different possibilities.

I chose specifically to learn Lotus 1-2-3 because of its popularity both in the academic field and the business world. By completing all of the assignments in Steven Ross's book, I was able to learn all the applications that were presented, and I now feel confident of my knowledge of the Lotus 1-2-3 software. As a business student and future business professional in the field of Operations Management, I feel that the knowledge of a spreadsheet application will give me the opportunity to be a more skilled analyst and more successful manager.

I felt that <u>Understanding and Using Lotus 1-2-3</u> by Steven C. Ross was an excellent user's guide. The documentation in the book was clear and easy to follow. Each activity and exercise was designed to illustrate points made in the unit. Directions were easy to follow, and the use of examples made the exercises clear. I liked the use of computer screens showing the steps and results of most of the commands. This book was also organized well. Each application was relevant to the exercises in the units.

I found that working at the computer was the best way to understand the concepts presented in the units of the book. The commands were easy to use. I found that it was easy to experiment with different functions. I spent a lot of time examining variations on the problems given.

I enjoyed learning the concepts and working on the applications. I found that the Lotus 1-2-3 software allows one to be creative, thorough, and make intelligent decisions. I feel that it will be useful in many applications I will work on in the future. The <u>Understanding and Using Lotus 1-2-3</u> user guide was an excellent way to learn to use the software and gain an understanding of its potential uses.

Where follows is a copy of the problems and applications that were presented in the <u>Understanding and Using Lotus 1-2-3</u> book.

PART 1

FUNDAMENTAL SPREADSHEET OPERATIONS

APPLICATION A

POOR RICHARD'S I

Al: 'Poor Richard's Automotive Company A2: 'Automobile Purchase Analysis A4: 'Automobile Stock # 04: 12345 E4: 'Sales Tax Rate 84: 0.05 A5: 'Dealer Cost C5: 10000 E5: 'Finance A.P.R. G5: 0.139 A6: 'List Price C6: 12000 E6: 'Number of Payments 66:48 A8: 'Trade in Value 08: 360 A9: (Trade in Allowance C9: 1900 A12: Net Cost C12: +C5-C8 A13: 'Net Price C13: +C6-C9 A15: 'Percent Profit C15: (C13-C12)/C12 A18: 'Monthly Payment C18: @PMT(C13,G5/12,G6)

PART 2

INTERMEDIATE SPREADSHEET OPERATIONS AND GRAPHICS

Unit 6

\$1,000,000.00 operating capital needs excl. interest \$50,000.00 cash on hand \$1,055,555.56 amount to borrow \$105,555.56 interest on amount borrowed

A1: 1000000 B1: 'operating capital needs excl. interest A2: 50000 B2: 'cash on hand A3: +A1-A2+A4 B3: 'amount to borrow A4: 0.1*A3 B4: 'interest on amount borrowed

APPLICATION B

POOR RICHARD'S II

| Automodile Stock # Dealer Cost List Price | 1234% \$10,000.00 \$12,000.00 | Sales Jax Mate Finance A.P.R. Mumber of Payments | 5.07 13.7% 48 |
|--|-------------------------------------|--|---------------------|
| Trade in Val ue Trada in Al lowance | *36 0.00 | | |
| Nat Cost Net Price | \$9,64 0.00 \$10,100.00 | | |
| Percent Profit | 5 . 6 % | | |
| Monthly Payment | \$ 257 | | |

| Aucomobile Stock * | 12345 |
|--------------------|-------------|
| Dealer Dest | \$10,000.00 |
| List Price | \$12,000.00 |
| Trade in Value | \$360.00 |
| Trade in Allowance | \$1,200.00 |
| Net Cust | *9,640.00 |
| Not Price | *10.800.00 |
| Porcent Profit | 10.7% |
| Menthly Payment | \$309.31 |

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| Finance A | | 言語の学者 |
| | Payments | 수중 |

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| -00.001* | *105.25 | \$110.78 | \$116.59 | \$122.71 | *129,15 |

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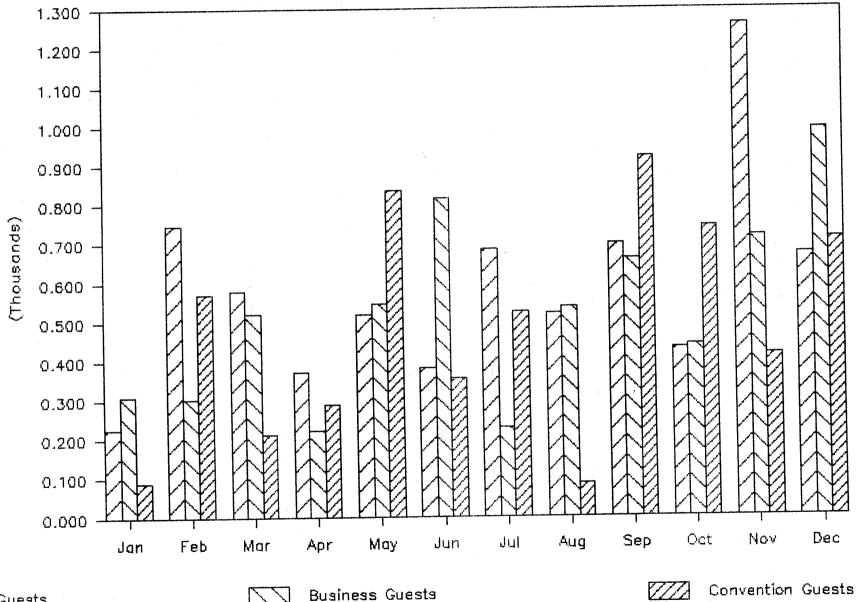
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APPLICATION D

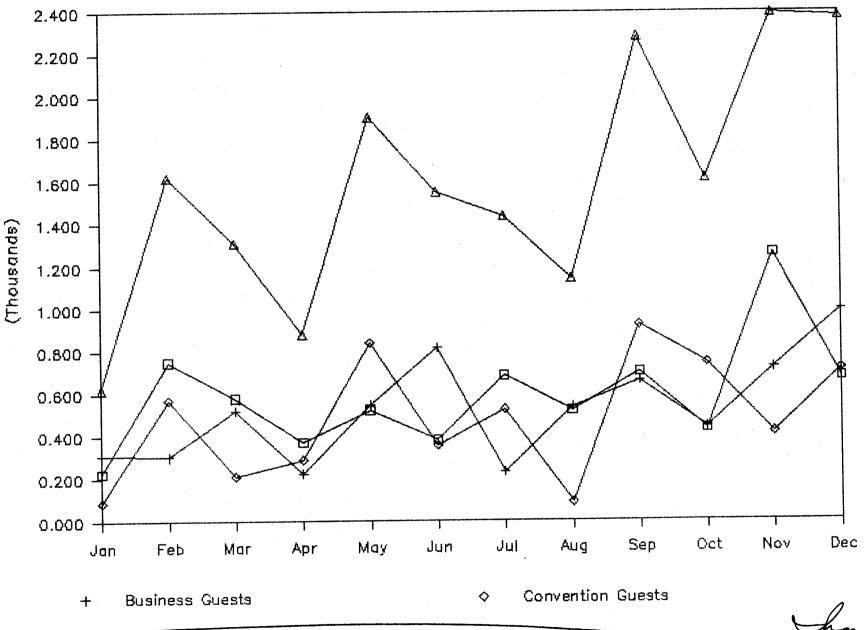
THE HOTEL MANAGER

Hotel Customer Types by Month



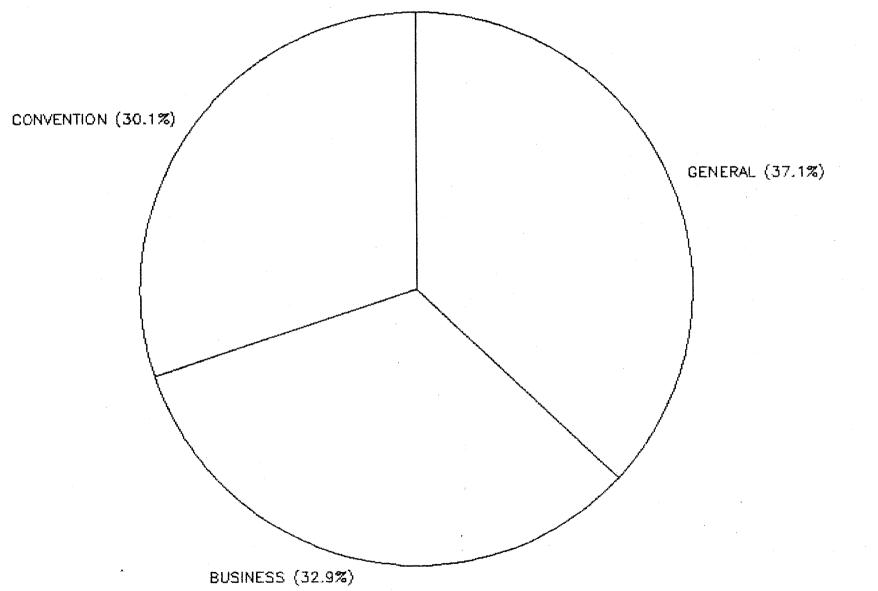
Guests

Guests by Type and Total Patronage



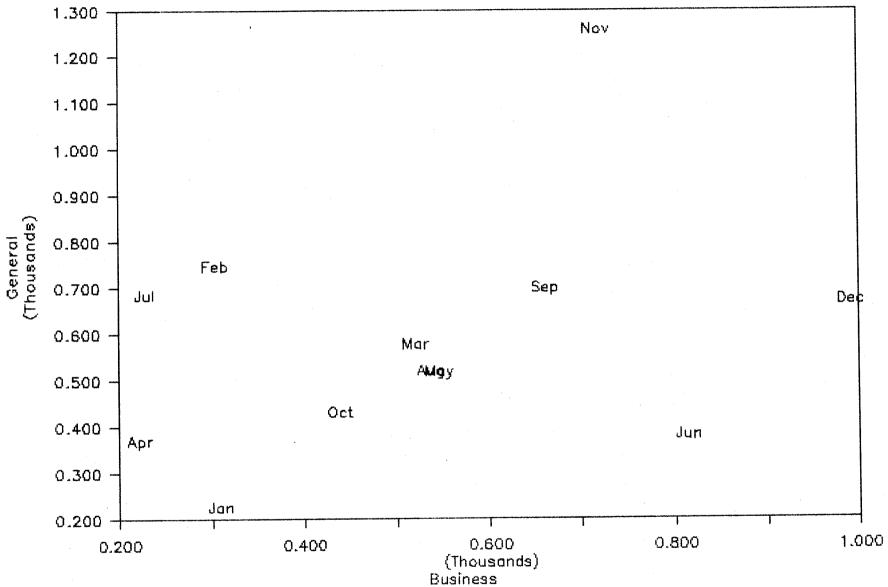
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Proportion of Each Type of Guest



Hotel Customer Comparison

General and Business Guests



| MONTH | GENERAL | BUSINESS | CONVENTION | TOTAL |
|-------|---------|----------|------------|-------|
| Jan | 225 | 309 | 88 | 622 |
| Feb | 747 | 303 | 571 | 1621 |
| Mar | 578 | 521 | 211 | 1310 |
| Apr | 370 | 222 | 287 | 879 |
| May | 519 | 546 | 837 | 1902 |
| Jun | 382 | 815 | 354 | 1551 |
| Jul | 684 | 228 | 524 | 1436 |
| Aug | 520 | 537 | 85 | 1142 |
| Sep | 700 | 660 | 921 | 2281 |
| Oct | 431 | 439 | 743 | 1613 |
| Nov | 1260 | 717 | 414 | 2391 |
| Dec | 673 | 991 | 712 | 2376 |
| Total | 7089 | 6288 | 5747 | |

| A1: | 'MONTH |
|--------------|------------|
| B1: | 'GENERAL |
| C1: | 'BUSINESS |
| D1: | CONVENTION |
| F1: | TOTAL |
| A2: | ′ Jan |
| B2: | 225 |
| C2: | 309 |
| D2: | 88 |
| F2: | @SUM(B2D2) |
| A3: | 'Feb |
| B3 : | 747 |
| СЗ: | 303 |
| D3 : | 571 |
| F3: | @SUM(B3D3) |
| A4 : | 'Mar |
| B4 : | 578 |
| C4: | 521 |
| <u>0</u> 4 : | 211 |
| F4: | @SUM(B4D4) |
| A5: | 'Apr |
| B5: | 370 |
| C5 : | 222 |
| D5: | 287 |
| F5: | @SUM(B5D5) |
| A6 : | 'May |
| B6: | 519 |
| C6: | 546 |
| D6: | 837 |
| F6: | @SUM(B6D6) |
| A7: | 'Jun |
| B7: | 382 |
| C7: | 815 |
| D7: | 354 |
| F7: | @SUM(B7D7) |
| A8 : | 'Jul |
| B8 : | 684 |
| C8 : | 228 |
| 08: | 524 |

F8: @SUM(B8..D8) A9: 'Aug 89: 520 C9: 537 D9:85 F9: @SUM(B9..D9) A10: 'Sep B10: 700 C10: 660 D10: 921 F10: @SUM(B10..D10) A11: 'Oct B11: 431 C11: 439 D11: 743 F11: @SUM(B11..D11) A12: 'Nov B12: 1260 ' C12: 717 D12: 414 F12: @SUM(B12..D12) A13: 'Dec B13: 673 C13: 991 D13: 712 F13: @SUM(B13..D13) A14: 'Total B14: @SUM(B2..B13) C14: @SUM(C2..C13) D14: @SUM(D2..D13)

PART 3

ADVANCED SPREADSHEET AND DATA BASE OPERATIONS

Unit 10

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| | 7400 | | 9600 | 180.3415 | 184.6487 | 189.0167 | 196.445 |
| 15 -4 | 3000 | | 11000 | 220.4174 | 225.4818 | 231.0204 | 236.432 |
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Unit 11

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Unit 13

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| Campbell | And the second | 40) - CE | and the second sec | | 40.4040 | $\int_{\mathcal{M}} \frac{1}{ x ^2} = \int_{\mathcal{M}} \frac{1}{ x ^2} \int_{\mathcal{M}} \frac{1}{ x ^2} \frac{1}{ x ^2}$ | |
| Delland | antana, atan≩ star territ territoria | 40.0C | 10,00 | 1.,QQ | $\frac{1}{\lambda_{ij}} \frac{1}{\lambda_{ij}} 1$ | the state of the state | a ta series and a s The series of the series and a ser |
| 高速的全部性 | el de Station La Mérica Mérica | 26.34 | ana ana ing ing Kabupatèn kari | 4.00 | 0.00 | 1476 a Chi | $\sum_{k=1}^{n-1} \sum_{k=1}^{n-1} $ |
| e en en en fa | | $\mathcal{L}_{\mathcal{C}}^{\sharp}\left(\uparrow \right) = \left\{ \mathcal{L}_{\mathcal{C}}^{\ast}\left(\mathcal{L}\right) \right\}$ | 0.00 | 17 - OK | (A., 625) | $ \frac{\partial \left(x_{1}^{2} - \partial \left(x_{$ | $\sum_{i=1}^{n-1} \frac{e^{i\theta} \mathbf{k}_{i}}{e_{i}} \sum_{i=1}^{n-1} \frac{e^{i\theta} \mathbf{k}_{i}}{e_{i}}$ |
| 8911 av | | <u></u> | $\sum_{i=1}^{n}\sum_{j=1}^{n} \left(-\frac{1}{2} \sum_{i=1}^{n} \left(-\frac{1}{2} \sum_{i=1}^{n} \left(-\frac{1}{2} \sum_{i=1}^{n} \right) \right) \right)$ | $(1,1) = \sum_{i=1}^{N_{i}} \frac{e^{i x_{i}}}{e^{i x_{i}}} \sum_{i=1}^{N_{i}} \frac{e^{i x_{i}}}{e^{i x_{i}}}$ | $\boldsymbol{X}_{\boldsymbol{i}_{1}}^{\boldsymbol{i}_{1}},\boldsymbol{i}_{1}^{\boldsymbol{i}_{1}},\ldots,\boldsymbol{i}_{n}^{\boldsymbol{i}_{n}},\boldsymbol{i}_{n}^{\boldsymbol{i}}$ | | |
| $\begin{array}{c} \label{eq:constraint} \operatorname{Spec}_{2} = \operatorname{Spec}_{2} \operatorname{Spec}_{2}$ | ده: مراجع شیخی برای دامه در ∞ هرا ب سال | ERN | and a state | 4, , O.C. | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | | |
| | | week of t | 19-Jac | | TOTAL PAY | | 42. A90. AN |

We also de la companya de la companya HADRAD & $\lim_{t\to\infty} \int_{t} \frac{dt}{dt} \int_{t} \frac{dt}{dt} = \int_{t} \frac{dt}{dt} = \int_{t} \frac{dt}{dt} \int_{t} \frac{dt}{dt}$ 810: Ph -ClowEll. 网络金属 医骨骨骨骨 计算机 网络小学师 网络小学师 我主义是《新教·学文书》(Although 211 e U C 승규는 문을 물을 드셨다. HILL PR CRICT HELLARDING S ALC: PR IMAN (B) (16) C. 2011 - 194 - 194 Showed Jave caught 每天空间 经收益 化白云豆树胶 化 HIRE PRESSED AD.2003.201.3 资金数据 **萨**密门 编辑目 医淋巴 管理法法 资料 人名 ELEE PRAY $\frac{\partial \sigma_{1,2}}{\partial r_{1,2}} = \frac{\partial \sigma_{1,2}}{\partial r_{2}} = \frac{$ $\begin{array}{cccc} & (x_1,y_2,z_3) & (x_2,y_3) \\ (x_1,y_2,z_3) & (x_1,z_3) & (x_2,z_3) \\ (x_1,y_2,z_3) & (x_2,z_3) & (x_1,z_3) \\ (x_1,y_2,z_3) & (x_2,z_3) & (x_1,z_3) \\ (x_1,y_2,z_3) & (x_1,z_3) & (x_2,z_3) \\ (x_1,y_2,z_3) & (x_1,z_3) & (x_1,z_3) \\ (x_1,y_2,z_3) & (x_1,z_3) & (x_1,z_3) \\ (x_1,y_2,z_3) & (x_1,z_3) & (x_1,z_3) \\ (x_1,z_3) & (x_1,z_3) & (x_1,z_3)$ AND: PR CRICI N-ALA: PH CNB. C14+ PR 依然世 Dia: FR (SUM 2232 EIA: PR MOUN(EA.,E12) 学会在外 开始 费留信的信任者。以来到您认 3:4; PR @60M(06.,612) HIA: PR TRILL OSUM (HA., HIZ)

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Unit 17

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APPLICATION E

PREDICTING THE FUTURE

| N 0.750 | 1782 | 1933 |
|----------------------|--|--|
| EETTY DIL . | 487.4 | |
| MDTOROLA, INC. | 443 . 6 | 346.0 |
| SEARS, ROFBLOX | <i>4.32.</i> , 8 | 439.3 |
| SENERAL TELEPHONE | 439.a | 407.5 |
| BENERAL ELECTRIC | 412.3 | 436.6 |
| | 335.6 | 273.5 |
| STANDARD OIL (IND.) | 287.1 | 346.3 |
| EASTMAN KODAK | 271.41 | 303.2 |
| BRISTGL-MYERS | 265.8 | 316.0 |
| MERCK & CO | 199.7 | 245.0 |
| AMER, HOME PRODUCTS | 5 C) 9 - 45 | 107.6 |
| AMERICAN VELEPHONE | . 61.9 | 68 . Q |
| CHENERO, MOTORS | 60 . S | $(\underline{z}, \underline{c}) = (\underline{c})$ |
| STANDARD DIL (CALIF) | with the second se | |
| PHILIP MORRIS | -58.0 | source the first the first terms of terms |
| EXXON CORP. | - 72.1 | -78.9 |
| DON CHEMICAL | -122.6 | 126 22 |
| MINNESOTA MINING&MFB | -139.6 | -141.9 |
| SCHLUMBERGER, LTC. | -144.7 | -179.B |
| AMERICAN EXPRESS | -154.7 | 139.1 |
| STANDARD CIL (OHIC) | -190.6 | -162.8 |
| REYNOLDS INDUSTRIES | norm of the second of the seco | -200.4 |
| HEWLETT-PACKARD (CD) | ······································ | -247.0 |
| ERITISH PETROLEUM | -242.3 | -267,2 |
| COCA-COLA | | ~ 34.9 , 7 |
| FFIZER, INC. | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | and the second |
| MOBIL CORF. | -391.4 | -393.7 |
| UNION PACIFIC CORP. | -386.8 | |
| THI FONT | | |
| FORD MOTOR | -409.0 | $= \left(\begin{array}{c} \sum_{i=1}^{n} \sum_{j=1}^{n} \sum_{i=1}^{n} \sum_{j=1$ |
| WAL-MART STORES | -415.3 | |
| ATLANTZE RICHFIELS | and the second sec | |
| INT'L TELEPHONE | ···· A the set of the | -350.7 |
| FROCTER&GAMBLE | -462.1 | -465.2 |
| TEXACO, INC. | -479.1 | $\operatorname{sense} \frac{\left \frac{1}{2} - \frac{1}{2} - \frac{1}{2} \right _{\mathcal{D}_{2}}^{2}}{\left \frac{1}{2} - \frac{1}{2} \right _{\mathcal{D}_{2}}^{2}} + \frac{\left \frac{1}{2} \right _{\mathcal{D}_{2}}^{2}}{\left \frac{1}{2} \right _{\mathcal{D}_{2}}^{2}} + \frac{\left \frac{1}{2} \right _{\mathcal{D}_{2}^{2}} + \frac{\left \frac{1}{2}$ |
| JOHNSON&JOHNSON | -484.0 | |
| INT'L BUGINESS MACH. | -491."() | $\max_{\substack{\substack{k \in \mathcal{K}_{ij} \\ k \in \mathcal{K}_{ij}}}} \frac{\sum_{j=1}^{2^{-1}} \left(\sum_{j=1}^{2^{-1}} \left(\sum_{j=1}^{2^{-1}} \sum_{j=1}^{2^{-1}} \left(\sum_{j=1}^{2^{-1}} \sum_{2$ |

-250.0 0.0 250.0

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APPLICATION F

POOR RICHARD'S III

| Automobile Stock # Dealer Cost List Price | 10115 \$8,546.00 \$10,950.00 | 84 Pont. Gran Prix |
|---|------------------------------------|---|
| Trade in Value Trade in Allowance | \$360.00 \$1,200.00 | |
| Net Cost Net Price | \$8,186.00 \$9,750.00 | |
| Percent Profit | 16.0% | Sales Tax Rate 5.0% Finance A.P.R. 13.9% |
| Monthly Payment | \$279.24 | Number of Payments 48 |

| Automobile Stock # | 12345 |
|--------------------|-------------|
| Dealer Cost | \$10,000.00 |
| List Price | \$12,000.00 |
| Trade in Value | \$360.00 |
| Trade in Allowance | \$1,200.00 |
| Net Cost | \$9,640.00 |
| Net Price | \$10,800.00 |
| Percent Profit | 10.7% |

84 Pont. Parisienne SW

Sales Tax Rate 5.0% 13.9% Finance A.P.R.

Monthly Payment \$309.31

48 Number of Payments

| Automobile Stock # Dealer Cost List Price | 11250 ≉7,632.00 ≉9,590.00 | 85 Buick Skyhawk | |
|---|--|--------------------------------------|-------------|
| Trade in Value Trade in Allowance | \$500.00 \$1,200.00 | | |
| Net Cost Net Price | \$7,132.00 \$8,390.00 | | |
| Percent Profit | 15.0% | Sales Tax Rate | 5.0% |
| Monthly Payment | \$240,29 | Finance A.P.R. Number of Payments | 13.9% 48 |

Stock No. Description

Our Cost Sticker Price

| 10005 84 Pont. | 6000 Coupe | \$4 ,037 | \$6,600 |
|----------------|-------------------|-----------------|----------|
| 10115 84 Pont. | Gran Prix | \$8,546 | \$10,950 |
| 11250 85 Buick | Skyhawk | \$7,632 | \$9,590 |
| 11489 85 Buick | • | \$7,553 | \$9,895 |
| 11564 85 Buick | Electra Estate SW | \$10,089 | \$14,500 |
| 11986 85 Pont. | Firebird | \$5,883 | \$8,250 |
| 12345 84 Pont. | Parisienne SW | \$10,000 | \$12,000 |
| 14008 85 Pont. | 6000 SW | \$7,256 | \$9,300 |
| 99999 | | ERR | ERR |
| | | | 1 |
| | | | |

A1: PR 'Poor Richard's Automotive Company H1: PR [W10] 'Stock No. 11: PR [W30] 'Description J1: PR [W9] 'Our Cost K1: PR [W13] 'Sticker Price A2: PR 'Automobile Purchase Analysis H2: PR [W10] \-12: PR [W30] \-J2: PR [W9] \-K2: PR [W13] \-H3: PR [W10] 10005 I3: PR [W30] '84 Pont. 6000 Coupe J3: (CO) PR [W9] 4037 K3: (CO) PR [W13] 6600 A4: PR 'Automobile Stock # C4: PR [W12] 12345 H4: PR [W10] 10115 I4: PR [W30] '84 Pont. Gran Prix J4: (CO) PR [W9] 8546 K4: (CO) PR [W13] 10950 A5: PR 'Dealer Cost C5: (C2) PR [W12] @VLOOKUP(TESTCASE, INVENTORY, 2) H5: PR [W10] 11250 I5: PR [W30] '85 Buick Skyhawk J5: (CO) PR [W9] 7632 K5: (CO) PR [W13] 9590 A6: PR 'List Price C6: (C2) PR [W12] @VLOOKUP(TESTCASE, INVENTORY, 3) H6: PR [W10] 11489 I6: PR [W30] '85 Buick Century J6: (CO) PR [W9] 7553 K6: (CO) PR [W13] 9895 H7: PR [W10] 11564 I7: PR [W30] '85 Buick Electra Estate SW J7: (CO) PR [W9] 10089 K7: (CO) PR [W13] 14500

A8: PR 'Trade in Value C8: (C2) U [W12] 360 H8: PR [W10] 11986 I8: PR [W30] '85 Pont. Firebird J8: (CO) PR [W9] 5883 K8: (CO) PR [W13] 8250 A9: PR 'Trade in Allowance C9: (C2) U [W12] 1200 H9: PR [W10] 12345 19: PR [W30] '84 Pont. Parisienne SW J9: (CO) PR [W9] 10000 K9: (CO) PR [W13] 12000 Hi0: PR [W10] 14008 110: PR [W30] '85 Pont. 6000 SW 310: (CO) PR [W9] 7256 K10: (CO) PR [W13] 9300 H11: PR [W10] 99999

K11: (CO) PR [W13] @ERR A12: PR 'Net Cost C12: (C2) PR [W12] +C5-C8 A13: PR 'Net Price C13: (C2) PR [W12] +C6-C9 A15: PR 'Percent Profit C15: (P1) PR [W12] (C13-C12)/C13 E16: PR 'Sales Tax Rate G16: (P1) PR 0.05 E17: PR 'Finance A.P.R. G17: (P1) PR 0.139 A18: PR 'Monthly Payment C18: (C2) PR [W12] @PMT(C13+(G16*C13),G17/12,G18) E18: PR 'Number of Payments G18: U 48