

Table of Contents

[*Italic type* indicates a sidebar.]

| | |
|--|------------|
| Preface | xix |
| Chapter 1 Introduction to Programming and RPG | 1 |
| Chapter Overview | 1 |
| Programming | 1 |
| History of RPG | 1 |
| RPG II | 2 |
| RPG III | 2 |
| RPG/400 | 3 |
| RPG IV | 3 |
| Learning the RPG Language | 4 |
| Program Variables | 5 |
| Objects, Data Files, and the Data Hierarchy | 5 |
| Files, Records, and Fields | 6 |
| Programming Specifications | 8 |
| The Printer Spacing Chart | 9 |
| The Program Development Cycle | 10 |
| Program Entry and Testing | 12 |
| Chapter Summary | 14 |
| Key Terms | 15 |
| Discussion/Review Questions | 16 |
| Exercises | 17 |
| Chapter 2 Getting Started | 19 |
| Chapter Overview | 19 |
| RPG IV Specifications | 19 |
| RPG Specifications for a Sample Program | 20 |
| <i>Control Specifications</i> | 22 |
| File Description Specifications | 22 |
| File Name (Positions 7–16) | 23 |
| File Type (Position 17) | 23 |
| File Designation (Position 18; Input Files Only) | 23 |
| File Format (Position 22) | 23 |
| Record Length (Positions 23–27) | 24 |
| Device (Positions 36–42) | 24 |
| Keywords (Positions 44–80) | 24 |
| Input Specifications | 25 |
| Record Identification Entries | 25 |
| File Name (Positions 7–16) | 25 |
| Sequence (Positions 17–18) | 26 |
| Field Description Entries | 26 |
| Field Location (Positions 37–46) | 26 |
| Decimal Positions (Position 47–48) | 27 |
| Field Name (Positions 49–62) | 27 |
| Data Attributes (Positions 31–34) | 27 |
| Data Type (Position 36) | 28 |

| | |
|---|-----------|
| Output Specifications | 28 |
| Record Identification Entries | 30 |
| File Name (Positions 7–16) | 30 |
| Type (Position 17) | 30 |
| Exception Name (Position 30–39) | 30 |
| Space and Skip Entries (Positions 40–51) | 30 |
| Field Description Entries | 31 |
| Field Name (Positions 30–43) | 32 |
| Constants (Positions 53–80) | 32 |
| End Position in Output Record (Positions 47–51) | 33 |
| Edit Codes (Position 44) | 33 |
| <i>Output Continuation Lines</i> | 34 |
| Calculation Specifications | 34 |
| RPG IV Operations | 36 |
| Except (Calculation Time Output) | 37 |
| Read (Read Sequentially) | 37 |
| Dow (Do While) | 37 |
| Enddo (End Do Group) | 37 |
| If..... | 37 |
| Endif (End If Group) | 38 |
| Eval (Evaluate Expression) | 38 |
| Return (Return to Caller) | 38 |
| <i>Fixed-Format Calculations</i> | 39 |
| Internal Documentation | 39 |
| Program Overview | 40 |
| Comments | 40 |
| <i>Fixed-Format Comments</i> | 40 |
| Blank Lines | 41 |
| The Completed Program | 41 |
| Output Editing | 42 |
| Edit Codes | 43 |
| Editing Numbers | 43 |
| Currency Output Editing | 44 |
| Edit Words | 45 |
| Chapter Summary | 46 |
| Key Terms | 47 |
| Discussion/Review Questions | 47 |
| Exercises | 48 |
| Programming Assignments | 49 |
| | |
| Chapter 3 Externally Described Files | 51 |
| Chapter Overview | 51 |
| The i5/OS Approach to Database Files..... | 51 |
| Physical and Logical Files..... | 52 |
| <i>i5/OS Database and SQL</i> | 54 |
| Introduction to DDS..... | 54 |
| Physical Files..... | 55 |
| Data Types and Data Storage | 56 |
| Storing Numeric Data | 56 |
| Storing Dates | 59 |

| | |
|---|------------|
| <i>EBCDIC, ASCII, and Unicode</i> | 60 |
| Logical Files..... | 61 |
| Simple Logical Files | 61 |
| Record Selection/Omission | 62 |
| Creating Database Files | 64 |
| RPG IV Programming with Externally Defined Files..... | 65 |
| Externally Described Printer Files | 66 |
| Editing and Line Positioning in DDS | 68 |
| Externally Described Printer Files and RPG | 69 |
| Putting It All Together..... | 70 |
| <i>Using a Field Reference File</i> | 71 |
| Chapter Summary..... | 72 |
| Key Terms..... | 73 |
| Discussion/Review Questions | 74 |
| Exercises | 74 |
| Programming Assignments | 75 |
| | |
| Chapter 4 Defining Data with Definition Specifications | 79 |
| Chapter Overview | 79 |
| Introducing Definition Specifications | 79 |
| Defining Standalone Variables..... | 80 |
| Numeric Data Types | 82 |
| Date, Time, and Timestamp | 84 |
| Indicator Data Type | 84 |
| Numeric Literals..... | 85 |
| Character Literals..... | 86 |
| Typed Literals..... | 86 |
| Figurative Constants..... | 87 |
| Assigning Initial Values to Data..... | 87 |
| Defining Constants | 89 |
| Defining Data Structures..... | 91 |
| Defining Data Structure Subfields | 91 |
| Initialization of Data Structures | 93 |
| Overlapping Subfields..... | 93 |
| Externally Described Data Structures | 95 |
| Qualified Data Structures | 97 |
| Using Like, Likeds, and Likerec..... | 98 |
| Using Definitions in a Program | 100 |
| Chapter Summary | 103 |
| <i>Organizing Definition Specifications</i> | 104 |
| Key Terms | 105 |
| Discussion/Review Questions | 105 |
| Exercises | 106 |
| Programming Assignments | 107 |
| | |
| Chapter 5 Using Arithmetic Operations and Functions | 109 |
| Chapter Overview | 109 |
| Simple Numeric Assignment | 109 |
| Assigning Values with Figurative Constants | 110 |

| | |
|---|------------|
| Using Eval for Arithmetic | 110 |
| Numeric Overflow, Truncation, and Field Sizes | 112 |
| Sizing Results for Addition | 113 |
| Sizing Results for Subtraction | 113 |
| Sizing Results for Multiplication | 113 |
| Sizing Results for Division | 114 |
| Rounding | 114 |
| Improving Eval Precision | 115 |
| Using Built-in Functions | 116 |
| %Abs (Absolute Value) | 116 |
| %Div (Divide) | 117 |
| %Rem (Remainder) | 117 |
| %Sqrt (Square Root) | 117 |
| Data Conversion Functions | 117 |
| Chapter Summary | 119 |
| Key Terms | 120 |
| Discussion/Review Questions | 121 |
| Exercises | 121 |
| Programming Assignments | 122 |
| Chapter 6 Processing Character Data | 125 |
| Chapter Overview | 125 |
| Simple Character Assignment | 125 |
| Using the Evalr Operation | 126 |
| Using the Eval-corr Operation | 127 |
| Assigning Values with Figurative Constants | 129 |
| Concatenating Character Values | 129 |
| Using Built-in Functions with Character Data | 131 |
| %Trim (Trim Blanks at Edges) | 131 |
| %Subst (Get or Set Substring) Function | 133 |
| %Replace (Replace Character String) | 134 |
| %Xlate (Translate) Function | 135 |
| Examining Character Content | 136 |
| %Scan (Scan String) | 136 |
| %Check (Check Characters) and %Checkr (Check Reverse) | 137 |
| Data Conversion Functions | 139 |
| %Char (Convert to Character Data) | 139 |
| %Editc (Edit with an Edit Code) | 139 |
| %Editw (Edit with an Edit Word) | 141 |
| Using Variable-Length Character Variables | 142 |
| <i>Determining Data Properties</i> | 143 |
| Chapter Summary | 146 |
| Key Terms | 147 |
| Discussion/Review Questions | 147 |
| Exercises | 148 |
| Programming Assignments | 149 |
| Chapter 7 Working with Dates | 155 |
| Chapter Overview | 155 |

| | |
|--|------------|
| Defining Date-Related Data | 155 |
| Defining Dates in Input Specifications | 155 |
| Defining Dates Using DDS | 156 |
| Defining Dates Using Definition Specifications | 157 |
| Understanding Date Formats | 157 |
| Simple Date Assignment | 159 |
| Using Typed Literals | 160 |
| Assigning Values with Figurative Constants | 161 |
| Simple Date Arithmetic | 162 |
| Using Built-in Functions with Dates | 164 |
| %Diff (Difference) | 164 |
| %Subdt (Extract from Date/Time/Timestamp) | 165 |
| Data Conversion Functions | 166 |
| %Date (Convert to Date) | 166 |
| %Time (Convert to Time) | 168 |
| %Timestamp (Convert to Timestamp) | 169 |
| %Char (Convert to Character Data) | 170 |
| %Dec (Convert to Decimal Data) | 171 |
| Chapter Summary | 172 |
| Key Terms | 173 |
| Discussion/Review Questions | 173 |
| Exercises | 174 |
| Programming Assignments | 175 |
| | |
| Chapter 8 Controlling Program Workflow | 179 |
| Chapter Overview | 179 |
| Structured Design | 179 |
| Relational Comparisons | 180 |
| Selection Operations | 181 |
| IF (If) | 181 |
| Select (Conditionally Select Operations) | 186 |
| Iteration Operations | 188 |
| Dow (Do While) | 188 |
| Dou (Do Until) | 188 |
| For | 189 |
| Loops and Early Exits | 192 |
| Top Down Design | 192 |
| Defining Subroutines | 193 |
| The Exsr (Execute Subroutine) Operation | 193 |
| Control Break Logic | 194 |
| Multiple-Level Control Break Logic | 199 |
| Chapter Summary | 200 |
| Key Terms | 201 |
| Discussion/Review Questions | 202 |
| Exercises | 203 |
| Programming Assignments | 204 |
| | |
| Chapter 9 Using Arrays and Tables..... | 207 |
| Chapter Overview | 207 |
| Representing Tables of Data | 207 |

| | |
|---|------------|
| Arrays | 208 |
| Runtime Arrays | 209 |
| Compile Time Arrays | 210 |
| Preruntime Arrays | 211 |
| Runtime Arrays and Data Structures | 212 |
| Defining Related Arrays | 215 |
| <i>Using Dim(%Elem) and Dim(%Size)</i> | 217 |
| Arrays and Indexing | 218 |
| Calculations with Arrays | 218 |
| %Lookup (Look up an Array Element) | 219 |
| Using Unequal Searches | 222 |
| Sorta (Sort an Array) | 223 |
| %Xfoot (Sum the Elements of an Array) | 224 |
| %Subarr (Set/Get Portion of an Array) | 224 |
| Array Data Structures and Multidimensional Arrays | 229 |
| <i>Overlaying Arrays</i> | 231 |
| Using Arrays | 232 |
| Tables..... | 235 |
| Table Lookups | 236 |
| Using Related Tables | 237 |
| Range Tables | 238 |
| Changing Table Values | 239 |
| Chapter Summary | 240 |
| Key Terms | 241 |
| Discussion/Review Questions | 242 |
| Exercises | 242 |
| Programming Assignments | 243 |
| Chapter 10 Accessing and Updating Database Files..... | 249 |
| Chapter Overview | 249 |
| Operations for Input Files..... | 249 |
| Sequential Access | 249 |
| Read (Read a Record) | 249 |
| Setll (Set Lower Limit) | 251 |
| Setgt (Set Greater Than)..... | 252 |
| Reade (Read Equal Key) | 252 |
| Readp (Read Prior Record) and Readpe (Read Prior Equal) | 253 |
| Random Access..... | 254 |
| Chain (Random Retrieval from a File) | 254 |
| Using Composite Keys..... | 255 |
| Partial Composite Keys..... | 256 |
| %Kds (Key Data Structure)..... | 257 |
| Operations for Output Files..... | 258 |
| Except (Calculation Time Output)..... | 259 |
| Write (Write a Record to a File) | 260 |
| Update Files and I/O Operations..... | 260 |
| Delete (Delete Record)..... | 261 |
| Update (Modify Existing Record) | 262 |
| Using the %Fields (Fields to Update) Function..... | 263 |
| File and Record Locking..... | 264 |

| | |
|--|------------|
| Putting It All Together..... | 266 |
| <i>Embedding SQL Statements in RPG</i> | 268 |
| Chapter Summary..... | 272 |
| Key Terms | 273 |
| Discussion/Review Questions | 274 |
| Exercises | 274 |
| Programming Assignments | 275 |
| Chapter 11 Writing Interactive Applications | 281 |
| Chapter Overview | 281 |
| Batch and Interactive Programs..... | 281 |
| Display Files..... | 281 |
| Performing Screen I/O | 287 |
| Using an Indicator Data Structure..... | 288 |
| Additional DDS Keywords | 289 |
| File-Level Keywords | 289 |
| Record-Level Keywords..... | 290 |
| Field-Level Keywords..... | 291 |
| Conditioning Indicators..... | 295 |
| Interactive File Maintenance..... | 297 |
| Screen Design and CUA..... | 305 |
| Chapter Summary..... | 306 |
| Key Terms | 307 |
| Discussion/Review Questions | 307 |
| Exercises | 308 |
| Programming Assignments | 309 |
| Chapter 12 Calling Programs and Passing Parameters..... | 319 |
| Chapter Overview | 319 |
| Modular Programming..... | 319 |
| Prototyping the Call Interface | 320 |
| Callp (Call a Prototyped Procedure or Program)..... | 322 |
| The Procedure Interface..... | 322 |
| Changing Parameters, the Return Operation, and *Inlr | 324 |
| Fitting the Pieces..... | 327 |
| Passing Parameters by Read-Only Reference | 329 |
| Using a Modular Approach..... | 331 |
| APIs | 332 |
| Data Areas..... | 334 |
| Data Area Data Structures | 334 |
| Chapter Summary..... | 337 |
| Key Terms | 338 |
| Discussion/Review Questions | 338 |
| Exercises | 339 |
| Programming Assignments | 340 |
| Chapter 13 Building Modular Programs with Procedures..... | 345 |
| Chapter Overview | 345 |
| Dynamic Program Calls and Static Binding | 345 |

| | |
|---|------------|
| Procedures and Subprocedures | 347 |
| Using Local Procedures | 348 |
| Coding the Main Procedure | 350 |
| Coding the Local Subprocedure | 352 |
| Creating the Single-Module Program | 354 |
| Creating Nomain Modular Procedures | 354 |
| Coding the Main Procedure | 354 |
| Coding the Nomain Procedure(s)..... | 356 |
| <i>Storing Prototypes in /Copy Members</i> | 357 |
| Creating a Multiple-Module Program | 358 |
| Passing Parameters by Value | 359 |
| Using Export and Import | 360 |
| Using a Binding Directory..... | 361 |
| Updating ILE Programs..... | 361 |
| Creating Service Programs..... | 362 |
| Using Service Programs | 363 |
| Maintaining Service Programs | 365 |
| Understanding the Service Program Signature | 365 |
| Using Binder Language | 365 |
| Maintaining Multiple Signatures | 367 |
| Chapter Summary..... | 368 |
| Key Terms | 370 |
| Discussion/Review Questions | 371 |
| Exercises | 371 |
| Programming Assignments | 372 |
| | |
| Chapter 14 Handling Errors | 377 |
| Chapter Overview | 377 |
| Capturing Operation Code Errors | 377 |
| Using the (E) Extender | 377 |
| %Error (Return Error Condition) Function | 378 |
| %Status (Return File or Program Status) Function..... | 379 |
| Monitor and On-error Operations..... | 380 |
| Finding Data Errors..... | 382 |
| Decimal Data Errors..... | 383 |
| Numeric Conversion Errors | 383 |
| Date and Time Errors | 385 |
| The INFSR Subroutine | 386 |
| The File Information Data Structure..... | 388 |
| The *PSSR Subroutine | 389 |
| The Program Status Data Structure | 390 |
| Chapter Summary..... | 391 |
| Key Terms | 392 |
| Discussion/Review Questions | 392 |
| Exercises | 392 |
| Programming Assignments | 393 |
| | |
| Chapter 15 Programming with Subfiles | 397 |
| Chapter Overview | 397 |

| | |
|--|------------|
| Subfiles | 397 |
| Subfile Record Formats | 399 |
| Subfile Control Record Formats | 400 |
| Loading the Subfile | 401 |
| Loading the Entire Subfile | 401 |
| Loading the Subfile a Page at a Time | 406 |
| Variation 1: Subfile Size Greater Than Page | 406 |
| Variation 2: Subfile Size Equals Page | 409 |
| Subfiles and Change | 412 |
| Uses of Subfiles | 416 |
| Chapter Summary | 417 |
| Key Terms | 417 |
| Discussion/Review Questions | 418 |
| Exercises | 418 |
| Programming Assignments | 419 |
| Appendix A RPG IV Summary | 431 |
| Usage Conventions | 431 |
| Control (H) Specification | 432 |
| Control Keywords | 432 |
| Date Formats | 434 |
| Time Formats | 434 |
| File (F) Specification | 435 |
| File Keywords | 436 |
| Definition (D) Specification | 437 |
| Definition Keywords | 438 |
| Input (I) Specification | 441 |
| Input Specification: Externally Described Files | 441 |
| Input Specification: Program-Described Files | 442 |
| Calculation (C) Specification | 444 |
| Calculation Specification: Free-Format | 444 |
| Operation Codes and Built-in Functions | 444 |
| Operation Code Extenders | 449 |
| Edit Codes | 449 |
| Status Codes | 450 |
| Calculation Specification: Fixed-Format | 453 |
| Fixed-Format (Only) Operation Codes | 453 |
| Output (O) Specification | 455 |
| Output Specification: Externally Described Files | 455 |
| Output Specification: Program-Described Files | 456 |
| Procedure (P) Specification | 458 |
| Procedure Keywords | 458 |
| Compiler Directives | 459 |
| Directives Used with Free-Format Calculations | 459 |
| Directives to Copy Code at Compile Time | 459 |
| Conditional Compilation Directives | 459 |
| Directives Used with Embedded SQL | 459 |
| Directives Affecting Compiler Listing | 459 |

| | |
|---|------------|
| Appendix B RPG IV Style Guide | 461 |
| Overview | 461 |
| Defining Data | 461 |
| Expand Naming Conventions | 461 |
| Declare Named Constants Instead of Using Literals | 462 |
| Indent Data Item Names..... | 462 |
| Use Length Notation for Data Structure Subfields..... | 462 |
| Avoid Compile Time Arrays..... | 463 |
| Avoid Multiple Occurrence Data Structures | 463 |
| Use Qualified Data Structures..... | 463 |
| Observe a One-Keyword-Per-Line Limit | 464 |
| Free-Format Syntax..... | 464 |
| Indent Code in Loops and Groups | 464 |
| Use Mixed-Case Source..... | 465 |
| Modular Applications | 466 |
| Write Modular Programs with Procedures | 466 |
| Use Return Values | 466 |
| Use Binding Directories Consistently | 466 |
| Package Often Reused Procedures in Service Programs..... | 467 |
| Use Binder Language to Control a Service Program Signature | 467 |
| Parameters and Shared Data..... | 467 |
| Protect Parameters from Unintended Changes..... | 467 |
| Store Prototypes in /COPY Members | 468 |
| Use IMPORT and EXPORT Only for Global Data Items | 468 |
| Indicators..... | 468 |
| Eliminate Numbered Indicators..... | 468 |
| Always Qualify File I/O Functions | 469 |
| Structured Programming Techniques..... | 469 |
| Perform Multipath Comparisons with Select/When/Other Groups | 469 |
| Character String Processing | 469 |
| Use a Named Constant to Declare a String | 469 |
| Use Variable-Length Fields to Simplify String Handling..... | 470 |
| Comments | 470 |
| Use // Comments Exclusively..... | 470 |
| Use Comments to Clarify—Not Echo—Your Code..... | 471 |
| Use “Marker Line” Comments to Organize Code..... | 472 |
| Avoid Right-Hand Comments..... | 472 |
| Don’t Use Positions 1–5 | 472 |
| Avoid Obsolescence | 472 |
| Eliminate Obsolete Operation Codes..... | 473 |
| Choose Functions Over Operation Codes..... | 473 |
| Avoid Program-Described Files | 473 |
| Use Native Date Data Types to Process Dates..... | 473 |
| Avoid Programming Tricks..... | 473 |
| Final Advice | 473 |
| Appendix C Program Development Tools | 475 |
| System i Development Tools | 475 |
| WebSphere Development Studio Client for iSeries (WDS <i>c</i>) | 477 |
| Opening a Source Member | 479 |

| | |
|--|------------|
| Editing a Source Member | 480 |
| Compiling a Source Member | 483 |
| Running a Program..... | 485 |
| CODE Designer..... | 486 |
| Programming Development Manager (PDM) | 488 |
| Enter/Edit a Source Member..... | 489 |
| Compiling a Source Member | 492 |
| Running a Program..... | 492 |
| Appendix D Program Testing and Debugging..... | 495 |
| Syntax Errors..... | 495 |
| Logic Errors..... | 496 |
| Runtime Errors..... | 496 |
| Diagnosing Abends..... | 496 |
| Diagnosing Infinite Loops | 497 |
| Output Errors..... | 498 |
| Detecting Output Errors | 498 |
| Correcting Output Errors..... | 499 |
| Debugging a Program..... | 501 |
| Specifying a Debug View..... | 501 |
| Breakpoints..... | 502 |
| Step Mode..... | 502 |
| Debugging with STRDBG..... | 502 |
| Debugging with WebSphere Development Studio Client..... | 504 |
| Appendix E Maintaining the Past..... | 507 |
| Evolution and Compatibility | 507 |
| Fixed-Format Calculations | 507 |
| Using Extended Factor 2 | 509 |
| Defining Work Fields | 509 |
| Resulting Indicators | 510 |
| Conditioning Indicators | 511 |
| Moving Data..... | 512 |
| Movea (Move Array) Operation | 514 |
| Fixed-Format Date Processing..... | 516 |
| Comments..... | 517 |
| Holdovers from RPG III | 517 |
| RPG III Calculations..... | 518 |
| Looping and Selecting | 518 |
| Defining Data | 519 |
| Converting to RPG IV | 520 |
| RPG II: A Blast from the Past..... | 521 |
| Appendix F Data Files | 523 |
| Case 1: CompuSell..... | 523 |
| CSCHST: CompuSell's Merchandise Sales History File | 523 |
| CSCFINP: CompuSell's Customer Finance File | 524 |
| CSCSTP: CompuSell's Customer Master File | 524 |
| CSINVP: CompuSell's Inventory Master File | 525 |
| CSORDP: CompuSell's Orders File..... | 525 |

| | |
|---|------------|
| CSORDPRP: CompuSell's Order/Products File | 526 |
| CSSUPP: CompuSell's Supplier File | 526 |
| CSZPZNP: CompuSell's Zip/Zone Table File | 527 |
| CSCHGP: CompuSell's Charges Table File | 527 |
| CSORDSTS: CompuSell's Order Status File..... | 527 |
| CSPO: CompuSell's Purchase Order File | 528 |
| CSPOD: CompuSell's Purchase Order Detail File | 528 |
| CSRCVP: CompuSell's Goods Received..... | 529 |
| CSSEMP: CompuSell's Employee Master File | 529 |
| Case 2: Wexler University | 530 |
| WUCRDP: Wexler University Earned Credits File | 530 |
| WUCRSDSP: Wexler University Course Description File | 530 |
| WUCRSP: Wexler University Course File..... | 531 |
| WUDPTP: Wexler University Department File..... | 531 |
| WUENRLP: Wexler University Current Enrollment File..... | 531 |
| WUEXAMP: Wexler University Student Exam File..... | 532 |
| WUHRLYP: Wexler University Hourly Employees File..... | 532 |
| WUINPAY: Wexler University Instructor Earnings History File | 533 |
| WUINSTP: Wexler University Instructor File | 533 |
| WUKEYP: Wexler University - File of Keys to Tests in WUTSTP | 534 |
| WULOANP: Wexler University Faculty Credit Union Loan File..... | 534 |
| WUSCTP: Wexler University Current Sections File | 534 |
| WUSTDP: Wexler University Student Master File..... | 535 |
| WUTRANSP: Wexler University Transcript Request File | 535 |
| WUTSTP: Wexler University Student Test File..... | 536 |
| Case 3: GTC, Inc. | 536 |
| GTCLSP: Calls Transaction File | 536 |
| GTCSTP: Customer Master File | 537 |
| GTCPAYP: Payments Transaction File..... | 537 |
| GTCRATP: Rates Table File..... | 538 |
| Miscellaneous Files | 538 |
| ACP001: Acme Work File | 538 |
| BIDS: Bids File..... | 539 |
| HJSLPP: Salesperson File..... | 539 |
| HJSLSP: Honest John's Used Car's Sales File..... | 540 |
| HJSLDTP: Honest John's Used Car's Sales Order Detail File | 540 |
| HJINVP: Honest John's Used Car's Inventory Master File | 541 |
| MWC001P: Municipal Water Company Meter Reading File | 541 |
| PIPRESP: Airline Reservation File | 542 |
| PRDSLSP: Sales Volume File..... | 542 |
| Index | 543 |