**Plan for PA1**

1. *Program Purpose*: Create a program that computes annual sales revenue to-date to determine the status of the company's sales revenue and whether a year-end bonus is in store for the employees.

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| **Input** | **Processing (Calculations)** |
| **projectedSales**  **noSalesReps**  **salesRep**  **noOfQtrs**  **qtrChoice**  **salesRevenues** | salesRepCtr = salesRepCtr +1  quarterlySales = quarterlySales + salesRevenue  monthCounter = monthCounter + 1  annualSales = annualSales + quarterlySales  qtrCounter = qtrCounter +1  percOfTargetRep = quarterlySales / (projectedSales/noSalesRep) \*100  percOfTargetCo = (annualSales / projectedSales) \* 100 |
| **Output** | |
| **TANDEM ENTERPRISES**  **SALES REVENUE FOR 9 QUARTER(S) OF 9999**  **SALES REP: Xxxxxxxxxxxx Xxxxxxxxxxxxxxxxxxxxx**  **Total Year-To-Date: $ZZZ,ZZZ,ZZ9.99**  **CORPORATE SALES PERFORMANCE**    **It's been a GOOD year so far. There could be a year-end bonus of**  **about 2-5% if we can keep on top of our sales goals. Thank you all**  **and please continue your excellent effort!**  ***OR***  **Sales are lagging projections. A year-end bonus may not be possible.** | |

1. *Class Diagram:*

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| Class Name | DeleonFON1PA1 |
| Class  Data Members | N/A |
| Method  Data Members | main()  input: Scanner  dateTime: Calendar  salesRep, monthNo, quarter: String  salesRevenue, quarterlySales, annualSales, projectedSales, percOfTargetCo, percOfTargetRep: double  qtrChoice, monthCounter, qtrCounter, noOfQtrs, noOfMonths, noSalesReps, salesRepCtr: int |
| Methods | +main(args: String[]): static void |

1. *Program Logic:*

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| **import Stmts: *import NameOfClass*** |
| Import Scanner  Import Calendar |

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| **Class Header: *public class NameOfYourClass*** |
| public class DeleonFON1PA1 |

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| **Fields (Class-Level Variables): *Refer to the Class Data Members section of the class diagram for a list of fields which should always be private (-).*** |
| **N/A** |

**🡻Recopy for each method in your program.**

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| **Method Purpose: Users are prompted for the projected sales revenue, the number of sales reps, the number of quarters a rep has worked, the quarter(s) in which revenue was earned, and the sales revenue for each month within a quarter. If the sales rep is earning 50% or above their target, than an encouraging message is given; otherwise, a warning that sales are lagging behind. If sales revenue for the company is greater than or equal to 100% of projected annual sales, then employees qualify for a 2-5% year-end bonus; otherwise, the sales are not on track to meet projections, and no year- end bonus can be expected** | | | | |
| **Method Header** | | Public static void main(String[] args) | | |
| **Method Variables** | | Scanner input  Calendar dateTime  String salesRep, monthNo, quarter  Double salesRevenue, quarterlySales, annualSales, projectedSales, percOfTargetCo, percOfTargetRep  Int qtrChoice, monthCounter, noOfQtrs, noOfMonths, noSalesReps, salesRepCtr | | |
| **CODE** | | | | |
| **Prompts** | **Input Variables** | | **Input Prompt** | |
| **1** | projectedSales | | “What is the projected annual sales for Tandem?” | |
| **2** | noSalesReps | | “How many sales reps work for Tandem?” | |
| **3** | salesRep | | “Enter the name of a sales rep: ”  OR  “Enter the name of the next sales rep: ” | |
| **4** | noOfQtrs | | “Enter the number of quarters worked (no less than 1 or greater than 4): “ | |
| **5** | qtrChoice | | “1. First Quarter”  “2. Second Quarter”  “3. Third Quarter”  “4. Fourth Quarter”  “Choose the quarter in which sales were earned: “  OR  “Choose the next quarter in which sales were earned: “ | |
| **6** | salesRevenues | | “Enter the sales revenue for the “, monthNo, “ month of the “, quarter, “.”  Actual code given in the PA instructions. | |
| **Print** | **Output** | | |
| **1** | **“TANDEM ENTERPRISES”** **“SALES REVENUE FOR “, noOfQtrs, “ QUARTER(S) OF “, dateTime *(Year Only)***  **“SALES REP: “, salesRep**  **“Total Year-To-Date: $”, quarterlySales**  ***Use appendix I to find the format specifier for just the year.*** | | |
| **2** | “Keep up the GOOD work. “ first name of salesRep. “. There is a possible year-end bonus!” | | |
| **3** | “So far sales are lagging behind projections.” | | |
| **4** | “CORPORATE SALES PERFORMANCE” | | |
| **5** | “It’s been a GOOD year so far. There could be a year-end bonus of about 2-5% if we can keep on top of our sales goals. Thank you all and please continue your excellent effort!” | | |
| **6** | “Sales are lagging projections. A year-end bonus may not be possible.” | | |
| **Algorithms** | Prompt 1  Prompt 2  Do  Assign 1 to qtrCounter  Reinitialize quarterlySales to default value  Post-increment salesRepCtr  Prompt 3  Enter the name of a sales rep: OR Enter the name of the next sales rep: Use this ternary in a printf() to determine which prompt is used by inserting the words to put in %s based on the value in salesRepCtr. "%nEnter the name of %s sales rep: ", salesRepCtr == 1 ? "a" : "the next"  Prompt 4  Enter the number of quarters worked (no less than 1 or greater than 4):  While qtrCounter <= noOfQtrs  Assign 1 to monthCounter  Prompt 5  Assign “First Quarter” through “Fourth Quarter” to  quarter using a ternary operation (actual code given in PA instructions.)  Insert this code as the last concatenated line in the printf() for Prompt 5. The argument is a ternary that decides to put “next ” or nothing in the %s. Note there is a space after the word next in the String literal. There is no space inbetween the double quotes.  "%n%nChoose the %squarter in which sales were earned: ", qtrCounter > 1 ? "next " : ""  Right after the printf(), code the following ternary to setup for Prompt 6. The ternary is a shortened if-else-if.  quarter = (qtrChoice == 1) ? "First Quarter" : (qtrChoice == 2) ? "Second Quarter" : (qtrChoice == 3) ? "Third Quarter" : "Fourth Quarter";  while monthCounter <= noOfMonts  if monthCounter = 1  monthNo = “1st”  else if monthCounter = 2  monthNo = “2nd”  else if monthCounter = 3  monthNo = “3rd”  endIfElseIf  Prompt 6  quarterlySales = quarterlySales + salesRevenue (use combined assignment per PA instructions meaning +=.)  Pre-increment monthCounter  endWhile monthCounter <= noOfMonths  annualSales = annualSales + quarterlySale (use combined assignment per PA instructions meaning +=.)    Pre-increment qtrCounter  endWhile qtrCounter <= noOfQtrs  Print 1  percOfTargetRep = quarterlySales / (projectedSales/noSalesReps) \* 100  if noOfQtrs < 4  if percOfTargetRep >= 50  Print 2  else  Print 3  endIF  while salesRepCtr < noSalesReps //end of do-while  percOfTargetCo = (annualSales/projectedSales) \* 100  Print 4  if percOfTargetCo >= 100  Print 5  Else  Print6  endIf  Stop | | |
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