**Plan for PA1**

1. *Program Purpose*:

|  |  |
| --- | --- |
| **Input** | **Processing (Calculations)** |
| **projectedSales**  **noSalesRep**  **salesRep**  **noOfQtrs**  **qtrChoice**  **salesRevenue** | salesRepCtr += 1  quarterlySales += salesRevenue  monthCounter += 1  annualSales += quarterlySales  qtrCounter += 1  percOfTargetRep = quarterlySales / (projectedSales) \* 100  perOfTargetCo = (annualSales/projectedSales) \* 100 |
| **Output** | |
| **TANDEM ENTERPRISES**  **SALES REVENUE FOR 9 QUARTER(S) OF 9999**  **SALES REP: Xxxxxxxxxxxx Xxxxxxxxxxxxxxxxxxxx**  **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:*

|  |  |
| --- | --- |
| Class Name | *RahmanZ003PA1* |
| Class  Data Members | N/A |
| Method  Data Members | Main()  Input: Scanner  Datetime: Calendar  salesRep, monthNo, quarter: String  salesRevenue, quarterlySales, annualSales, projectedSales, percOfTargetCo, perceOfTargetRep: double  qtrChoice, monthCounter, qtrCounter, noOfQtrs, noOfMonths, nosalesREps, salesRepCtr: int |
| Methods | ++ main(args: String[]): static void  Prompts:  What is the projected annual sales?  How many sales reps work for Tandem  Enter the name of the sales rep  Enter the number of quarters worked  Enter the sales revenue for each month |

1. *Program Logic:*

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

|  |
| --- |
| **Class Header: *public class NameOfYourClass*** |
| public class RahmanZ003PA1 |

|  |
| --- |
| **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.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **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 he sales revenue for each month within a quarter. If the sales rep is earning 50% or above their target, then an encouraging message is given; otherwise, a warning that sales are lagging. 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  StringsalesRep, monthNo, quarter  doubleSalesREvenue, quarterlySales, annualSales,  projectedSales, perOfTargetCo, percOfTargetLRep  int qtrChoice, monthCounter, qtrCounter, 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** | salesReps | | “Enter the name of “, x or xxxxxxxx, “sales rep: “  Where x is “a” and xxxxxxxx is “the next” (actual code give in PA instructions) | |
| **4** | noOfQtrs | | Enter the number of quarters worked(no less than 1 or greater tha 4); | |
| **5** | qtrChoice | | “1. First Quarter”  “2. Second Quarter”  “3. Third Quarter”  “4. Fourth Quarter”  “Choose the xxxxxxxx is nothing or “next “(actual code given in PA instructions) | |
| **6** | salesRevenue | | “Enter the sales revenue for the “, monthNo, “ month of the “, quarter, “: “  Actula code given in PA instructions. | |
| **Print** | **Output** | | |
| **1.** | “TANDEM ENTERPRISES”  “SALES REVENUE FOR “, noOfQtrs, “ QUARTER(S) OF “, dateTime (Year Only)  SALES REP: “, salesRep  Total Year-To-Date: $”, quarterSales  Get the output pseudocode from PA1 FinalOutput Specs for Plan file. Use Appendix I to find the format specifier for just the year. | | |
| **2.** | “Keep up the GOOD work,”, first name of salesRep, “. Tghere is a possible yea-end bonus!”  Actual code given in PA instructions. | | |
| **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  Prompt 4  Prompt 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)  While monthCounter <= noOfMonths  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    **quarterlySales += salesRevenue**  Pre-increment monthCounterd  endWhile qrtCouner <= noOfQtrs  Print 1  PercOfTargetRep = quarterlySales /  (projedtedSales/noSalesReps) \* 100  If noOfQtrs < 4  If percOfTargetRep <= 50  Print 2  Else  Print 3  endIf  while salesRepCtr < noSalesReps  percOfTargetCo = (annualSales/projectedSales) \* 100  Print 4  If perOfTargetCo >= 100  Print 5  Else  Print 6  endIf  Stop | | |