**Solution for Problem6 of Module 2 Assignment**

Dimension Tables are:

**Customer**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***CustKey*** | ***Cust\_Name*** | ***E\_Mail\_Address*** | ***City*** | ***State*** | ***Zip*** | ***Country*** | ***Credit\_Limit*** | ***Terms\_Code*** |
| 111111 | First Credit | [sue.good@firstcredit.com](mailto:sue.good@firstcredit.com) | San Mateo | CA | 94404 | USA | 1000000 | CCD |
| 111112 | Second Credit | [bill.smith@secondcredit.com](mailto:bill.smith@secondcredit.com) | New York | NY | 10577 | USA | 1500000 | Net60 |
| 111113 | Third Credit | [mary.jones@thirdcredit.com](mailto:mary.jones@thirdcredit.com) | Toronto | QC | M4E1B4 | CA | 2000000 | Net20 |
| 111114 | First Bank | [amy.tangh@firstbank.com](mailto:amy.tangh@firstbank.com) | St. Louis | MO | 63105 | USA | 1700000 | Net30 |

**CustLocation**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Cust\_Loc\_Key*** | ***Cust\_Name*** | ***Cust\_No*** | ***E\_Mail\_Address*** | ***City*** | ***State*** | ***Zip*** | ***Country*** | ***Cust\_Key*** |
| 1111111 | First Credit | 1 | [sue.good@firstcredit.com](mailto:sue.good@firstcredit.com) | San Mateo | CA | 94404 | USA | 111111 |
| 1111112 | First Credit | 2 | [sue.good@firstcredit.com](mailto:sue.good@firstcredit.com) | San Francisco | CA | 94407 | USA | 111111 |
| 1111121 | Second Credit | 1 | [bill.smith@secondcredit.com](mailto:bill.smith@secondcredit.com) | New York | NY | 10577 | USA | 111112 |
| 1111131 | Third Credit | 1 | [mary.jones@thirdcredit.com](mailto:mary.jones@thirdcredit.com) | Toronto | QC | M4E1B4 | CA | 111113 |
| 1111132 | Third Credit | 2 | [ann.lee@thirdcredit.com](mailto:ann.lee@thirdcredit.com) | Cincinnati | OH | 45236 | USA | 111113 |
| 1111121 | First Bank | 1 | [amy.tang@firstbank.com](mailto:amy.tang@firstbank.com) | St. Louis | MO | 63105 | USA | 111114 |
| 1111122 | First Bank | 2 | [joe.slick@firstbank.com](mailto:joe.slick@firstbank.com) | St. Louis | MO | 63107 | USA | 111114 |

**SalesAgent**

|  |  |  |  |
| --- | --- | --- | --- |
| ***Sales\_Agent\_Id*** | ***Sales\_Agent\_Name*** | ***State*** | ***Country*** |
| 1 | Ron Jones | CO | USA |
| 2 | Tammy Ralston | BC | CA |
| 3 | Theo Jackson | GA | USA |

**Machine Type**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ***Machine\_Type\_Id*** | ***Manufacturer*** | ***Model*** | ***Rate\_Per\_Hour*** | ***Number\_Of\_Machines*** |
| 1 | Connex | Connex M1 | 10 | 100 |
| 2 | Remix | Remix M1 | 15 | 50 |
| 3 | Connex | Connex M2 | 20 | 10 |
| 4 | Remix | Remix M2 | 25 | 20 |

**Time**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Time\_Id** | **Year** | **Quarter** | **Month** | **Day** | **Week** |
| 20130608 | 2013 | 2 | 6 | 8 | 23 |
| 20131205 | 2013 | 4 | 12 | 5 | 49 |
| 20131220 | 2013 | 4 | 12 | 20 | 51 |
| 20140101 | 2014 | 1 | 1 | 1 | 1 |
| 20140103 | 2014 | 1 | 1 | 3 | 1 |
| 20140105 | 2014 | 1 | 1 | 5 | 2 |
| 20140110 | 2014 | 1 | 1 | 10 | 2 |
| 20140115 | 2014 | 1 | 1 | 15 | 3 |
| 20140117 | 2014 | 1 | 1 | 17 | 3 |
| 20140124 | 2014 | 1 | 1 | 24 | 4 |
| 20140125 | 2014 | 1 | 1 | 25 | 4 |
| 20140131 | 2014 | 1 | 1 | 31 | 5 |
| 20140201 | 2014 | 1 | 2 | 1 | 5 |
| 20140202 | 2014 | 1 | 2 | 2 | 6 |
| 20140203 | 2014 | 1 | 2 | 3 | 6 |
| 20140215 | 2014 | 1 | 2 | 15 | 7 |
| 20140224 | 2014 | 1 | 2 | 24 | 9 |
| 20140228 | 2014 | 1 | 2 | 28 | 9 |
| 20140301 | 2014 | 1 | 3 | 1 | 9 |
| 20140314 | 2014 | 1 | 3 | 14 | 11 |
| 20140315 | 2014 | 1 | 3 | 15 | 11 |
| 20140331 | 2014 | 1 | 3 | 31 | 14 |
| 20140401 | 2014 | 2 | 4 | 1 | 14 |
| 20140430 | 2014 | 2 | 4 | 30 | 18 |
| 20140501 | 2014 | 2 | 5 | 1 | 18 |
| 20140517 | 2014 | 2 | 5 | 17 | 20 |
| 20140531 | 2014 | 2 | 5 | 31 | 22 |
| 20140601 | 2014 | 2 | 6 | 1 | 23 |
| 20140603 | 2014 | 2 | 6 | 3 | 23 |
| 20140615 | 2014 | 2 | 6 | 15 | 25 |
| 20140630 | 2014 | 2 | 6 | 30 | 27 |
| 20140701 | 2014 | 3 | 7 | 1 | 27 |
| 20140707 | 2014 | 3 | 7 | 7 | 28 |
| 20140731 | 2014 | 3 | 7 | 31 | 31 |
| 20140801 | 2014 | 3 | 8 | 1 | 31 |
| 20140810 | 2014 | 3 | 8 | 10 | 33 |
| 20140831 | 2014 | 3 | 8 | 31 | 36 |
| 20140901 | 2014 | 3 | 9 | 1 | 36 |
| 20140905 | 2014 | 3 | 9 | 5 | 36 |
| 20140915 | 2014 | 3 | 9 | 15 | 38 |
| 20140930 | 2014 | 3 | 9 | 30 | 40 |
| 20141001 | 2014 | 4 | 10 | 1 | 40 |
| 20141005 | 2014 | 4 | 10 | 5 | 41 |
| 20141031 | 2014 | 4 | 10 | 31 | 44 |
| 20141101 | 2014 | 4 | 11 | 1 | 44 |
| 20141120 | 2014 | 4 | 11 | 20 | 47 |
| 20141130 | 2014 | 4 | 11 | 30 | 49 |
| 20141201 | 2014 | 4 | 12 | 1 | 49 |
| 20141208 | 2014 | 4 | 12 | 8 | 50 |
| 20141215 | 2014 | 4 | 12 | 15 | 51 |
| 20141231 | 2014 | 4 | 12 | 31 | 53 |
| 20150103 | 2015 | 1 | 1 | 3 | 1 |
| 20150110 | 2015 | 1 | 1 | 10 | 2 |
| 20150125 | 2015 | 1 | 1 | 25 | 5 |
| 20150126 | 2015 | 1 | 1 | 26 | 5 |
| 20150202 | 2015 | 1 | 2 | 2 | 6 |
| 20150203 | 2015 | 1 | 2 | 3 | 6 |
| 20150213 | 2015 | 1 | 2 | 13 | 7 |
| 20150214 | 2015 | 1 | 2 | 14 | 7 |
| 20150215 | 2015 | 1 | 2 | 15 | 8 |
| 20150215 | 2015 | 1 | 2 | 15 | 8 |
| 20150224 | 2015 | 1 | 2 | 24 | 9 |
| 20150228 | 2015 | 1 | 2 | 28 | 9 |
| 20150303 | 2015 | 1 | 3 | 3 | 10 |
| 20150304 | 2015 | 1 | 3 | 4 | 10 |
| 20150315 | 2015 | 1 | 3 | 15 | 12 |
| 20150407 | 2015 | 2 | 4 | 7 | 15 |
| 20150410 | 2015 | 2 | 4 | 10 | 15 |
| 20150410 | 2015 | 2 | 4 | 10 | 15 |
| 20150411 | 2015 | 2 | 4 | 11 | 15 |
| 20150417 | 2015 | 2 | 4 | 17 | 16 |
| 20150501 | 2015 | 2 | 5 | 1 | 18 |
| 20150505 | 2015 | 2 | 5 | 5 | 19 |
| 20150510 | 2015 | 2 | 5 | 10 | 20 |
| 20150515 | 2015 | 2 | 5 | 15 | 20 |
| 20150529 | 2015 | 2 | 5 | 29 | 22 |
| 20150714 | 2015 | 3 | 7 | 14 | 29 |
| 20150820 | 2015 | 3 | 8 | 20 | 34 |
| 20150901 | 2015 | 3 | 9 | 1 | 36 |
| 20151017 | 2015 | 4 | 10 | 17 | 42 |
| 20151030 | 2015 | 4 | 10 | 30 | 44 |

**Fact Tables are:**

**Leads**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Lead\_Id*** | ***Quote\_Qty*** | ***Quote\_Price*** | ***Quote\_Value*** | ***Success*** | ***Created\_Date*** | ***Cust\_Key*** | ***Location\_Name*** | ***Sales\_Agent\_Id*** | ***Sales\_Class\_Desc*** |
| 555555 | 100000 | 1.1 | 107800 | TRUE | 20131205 | 111111 | Denver HQ | 1 | Credit Card Smart |
| 665556 | 200000 | 0.8 | 133000 | TRUE | 20141120 | 111112 | Denver HQ | 2 | Credit Card Mag |
| 690006 | 175000 | 0.7 | 118825 | TRUE | 20150417 | 111113 | Montreal Plant | 3 | Debit Card Smart |
| 734033 | 50000 | 1.5 | 73500 | TRUE | 20140810 | 111113 | Atlanta Division | 1 | Credit Card Mag |
| 633557 | 80000 | 1.5 | 114000 | TRUE | 20140517 | 111111 | Atlanta Division | 1 | Credit Card Mag |
| 756778 | 160000 | 1.3 | 195520 | TRUE | 20150714 | 111111 | Atlanta Division | 1 | Credit Card Mag |
| 333125 | 95000 | 0.9 | 83790 | FALSE | 20130608 | 111114 | Denver HQ | 3 | Credit Card Mag |
| 673125 | 115000 | 0.9 | 100395 | FALSE | 20140315 | 111112 | Montreal Plant | 2 | Credit Card Smart |

**Sales(Summary)**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *Summary\_Sales\_Id* | *Actual\_Units* | *Actual\_Amount* | *Forecast\_Units* | *Forecast\_Amount* | *Location\_Name* | *Sales\_Class\_Desc* | *Begin\_Date* | *End\_Date* |
| 1 | 759,000 | $993,800 | 10,000,000.00 | $13,500,000 | Denver HQ | Credit Card Smart | 20140101 | 20140131 |
| 2 | 1,636,000 | 1,883,800 | 10,000,000.00 | $13,500,000 | Denver HQ | Credit Card Smart | 20140201 | 20140228 |
| 3 | 2,323,000 | 3,103,800 | 10,000,000.00 | $13,500,000 | Denver HQ | Credit Card Smart | 20140301 | 20140331 |
| 4 | 2,892,000 | 3,896,800 | 10,000,000.00 | $13,500,000 | Denver HQ | Credit Card Smart | 20140401 | 20140430 |
| 5 | 3,769,000 | 5,116,800 | 10,000,000.00 | $13,500,000 | Denver HQ | Credit Card Smart | 20140501 | 20140531 |
| 6 | 4,646,000 | 6,336,800 | 10,000,000.00 | $13,500,000 | Denver HQ | Credit Card Smart | 20140601 | 20140630 |
| 7 | 5,523,000 | 7,556,800 | 10,000,000.00 | $13,500,000 | Denver HQ | Credit Card Smart | 20140701 | 20140731 |
| 8 | 6,400,000 | 8,776,800 | 10,000,000.00 | $13,500,000 | Denver HQ | Credit Card Smart | 20140801 | 20140831 |
| 9 | 7,277,000 | 9,996,800 | 10,000,000.00 | $13,500,000 | Denver HQ | Credit Card Smart | 20140901 | 20140930 |
| 10 | 8,154,000 | 11,216,800 | 10,000,000.00 | $13,500,000 | Denver HQ | Credit Card Smart | 20141001 | 20141031 |
| 11 | 9,031,000 | 12,436,800 | 10,000,000.00 | $13,500,000 | Denver HQ | Credit Card Smart | 20141101 | 20141130 |
| 12 | 9,908,000 | 13,656,800 | 10,000,000.00 | $13,500,000 | Denver HQ | Credit Card Smart | 20141201 | 20141231 |

**Cost(Summary)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *Summary\_Cost\_Id* | *Actual\_Units* | *Actual\_Labor\_Cost* | *Actual\_Material\_Cost* | *Actual\_Overhead\_Cost* | *Actual\_Machine\_Cost* | *Budget\_Units* | *Budget\_Labor\_Cost* | *Budget\_Material\_Cost* | *Budget\_Overhead\_Cost* | *Budget\_Machine\_Cost* | *Location\_Name* | *Machine\_Type\_Id* | *Sales\_Class\_Desc* | *Begin\_Date* | *End\_Date* |
| 1 | 1,125,000 | $326,250 | $191,250 | $135,000 | $202,500 | 13,500,000 | $3,915,000.0 | $2,295,000 | $1,620,000 | $2,430,000 | Denver HQ | 1 | Credit Card Smart | 20140101 | 20140131 |
| 2 | 2,081,250 | $603,563 | $353,813 | $249,750 | $374,625 | 13,500,000 | $3,915,000.0 | $2,295,000 | $1,620,000 | $2,430,000 | Denver HQ | 1 | Credit Card Smart | 20140201 | 20140228 |
| 3 | 3,037,500 | $880,875 | $516,375 | $364,500 | $546,750 | 13,500,000 | $3,915,000.0 | $2,295,000 | $1,620,000 | $2,430,000 | Denver HQ | 1 | Credit Card Smart | 20140301 | 20140331 |
| 4 | 3,993,750 | $1,158,188 | $678,938 | $479,250 | $718,875 | 13,500,000 | $3,915,000.0 | $2,295,000 | $1,620,000 | $2,430,000 | Denver HQ | 1 | Credit Card Smart | 20140401 | 20140430 |
| 5 | 4,950,000 | $1,435,500 | $841,500 | $594,000 | $891,000 | 13,500,000 | $3,915,000.0 | $2,295,000 | $1,620,000 | $2,430,000 | Denver HQ | 1 | Credit Card Smart | 20140501 | 20140531 |
| 6 | 5,906,250 | $1,712,813 | $1,004,063 | $708,750 | $1,063,125 | 13,500,000 | $3,915,000.0 | $2,295,000 | $1,620,000 | $2,430,000 | Denver HQ | 1 | Credit Card Smart | 20140601 | 20140630 |
| 7 | 6,862,500 | $1,990,125 | $1,166,625 | $823,500 | $1,235,250 | 13,500,000 | $3,915,000.0 | $2,295,000 | $1,620,000 | $2,430,000 | Denver HQ | 1 | Credit Card Smart | 20140701 | 20140731 |
| 8 | 8,043,750 | $2,332,688 | $1,367,438 | $965,250 | $1,447,875 | 13,500,000 | $3,915,000.0 | $2,295,000 | $1,620,000 | $2,430,000 | Denver HQ | 1 | Credit Card Smart | 20140801 | 20140831 |
| 9 | 9,000,000 | $2,610,000 | $1,530,000 | $1,080,000 | $1,620,000 | 13,500,000 | $3,915,000.0 | $2,295,000 | $1,620,000 | $2,430,000 | Denver HQ | 1 | Credit Card Smart | 20140901 | 20140930 |
| 10 | 10,091,250 | $2,926,463 | $1,715,513 | $1,210,950 | $1,816,425 | 13,500,000 | $3,915,000.0 | $2,295,000 | $1,620,000 | $2,430,000 | Denver HQ | 1 | Credit Card Smart | 20141001 | 20141031 |
| 11 | 11,047,500 | $3,203,775 | $1,878,075 | $1,325,700 | $1,988,550 | 13,500,000 | $3,915,000.0 | $2,295,000 | $1,620,000 | $2,430,000 | Denver HQ | 1 | Credit Card Smart | 20141101 | 20141130 |
| 12 | 12,150,000 | $3,523,500 | $2,065,500 | $1,458,000 | $2,187,000 | 13,500,000 | $3,915,000.0 | $2,295,000 | $1,620,000 | $2,430,000 | Denver HQ | 1 | Credit Card Smart | 20141201 | 20141231 |

**Invoice**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| *Invoice\_Id* | *Date\_Due* | *Date\_Invoiced* | *Invoice\_Amount* | *Cust\_Key* | *Invoice\_Quantity* | *Invoice\_Shipped* |
| 111111 | 20140215 | 20140124 | 37500 | 111111 | 25400 | 25500 |
| 111112 | 20140314 | 20140224 | 9000 | 111111 | 9000 | 9000 |
| 111113 | 20150310 | 20150224 | 42500 | 111112 | 30900 | 32000 |

**Job**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *Job\_Id* | *Number\_SubJobs* | *Contract\_Date* | *Date\_Promised* | *Unit\_Price* | *Quantity\_Ordered* | *Quotation\_Amount* | *Quotation\_Quantity* | *Location\_name* | *Sales\_Class\_Desc* | *Sales\_Agent\_Id* | *Cust\_Key* |
| 111111 | 5 | 20140103 | 20140301 | 1.1 | 100000 | 107800 | 100000 | Denver HQ | Credit Card Smart | 1 | 111111 |
| 222222 | 4 | 20150103 | 20150303 | 0.8 | 200000 | 152000 | 200000 | Denver HQ | Credit Card Mag | 2 | 111112 |
| 333333 | 6 | 20150403 | 20150515 | 0.7 | 150000 | 118825 | 175000 | Montreal Plant | Debit Card Smart | 3 | 111113 |
| 444444 | 3 | 20140603 | 20140915 | 1.5 | 50000 | 73500 | 50000 | London Plant | Debit Card Smart | 3 | 111113 |
| 555555 | 4 | 20141005 | 20141215 | 1.5 | 75000 | 114000 | 80000 | Atlanta Division | Credit Card Mag | 1 | 111111 |
| 666666 | 6 | 20150501 | 20150901 | 1.3 | 160000 | 195520 | 160000 | Atlanta Division | Credit Card Mag | 1 | 111111 |

**SubJob**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *Job\_Id* | *Sub\_Job\_Id* | *Cost\_Labor* | *Cost\_Material* | *Cost\_Overhead* | *Machine\_Hours* | *Date\_Prod\_Begin* | *Date\_Prod\_End* | *Quantity\_Produced* | *Machine\_Type\_Id* |
| 111111 | 1 | 7000 | 5000 | 200 | 10 | 20140105 | 2014017 | 20000 | 1 |
| 111111 | 2 | 8000 | 5500 | 300 | 15 | 20140125 | 20140215 | 30000 | 2 |
| 222222 | 1 | 9000 | 6600 | 400 | 17 | 20150110 | 20150214 | 35000 | 3 |
| 222222 | 2 | 8500 | 6000 | 450 | 20 | 20150125 | 20150228 | 35000 | 2 |
| 333333 | 1 | 7500 | 5600 | 300 | 20 | 20150407 | 20150410 | 25000 | 3 |
| 444444 | 1 | 6500 | 4200 | 300 | 15 | 20140615 | 20140707 | 20000 | 1 |

**Shipment**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *Shipment\_Id* | *Actual\_Ship\_Date* | *Requested\_Ship\_Date* | *Actual\_Quantity* | *Requested\_Quantity* | *Boxes* | *Quantity\_Per\_Box* | *Quantity\_Per\_Partial\_Box* | *Shipment\_Amount* | *Job\_Id* | *Subjob\_Id* | *Invoice\_id* | *Cust\_Loc\_Key* |
| 111111 | 20140115 | 20140110 | 10000 | 10000 | 10 | 1000 | 0 | 15000 | 111111 | 1 | 111111 | 1111111 |
| 111112 | 20140117 | 20140117 | 15500 | 15500 | 15 | 1000 | 500 | 22500 | 111111 | 1 | 111111 | 1111112 |
| 111113 | 20140202 | 20140203 | 10000 | 10000 | 3 | 3000 | 1000 | 9000 | 111111 | 2 | 111112 | 1111111 |
| 111114 | 20150126 | 20150125 | 10000 | 10000 | 6 | 1500 | 1000 | 13500 | 222222 | 1 | 111113 | 1111121 |
| 111115 | 20150202 | 20150203 | 10000 | 10000 | 6 | 1500 | 1000 | 13500 | 222222 | 1 | 111113 | 1111121 |
| 111116 | 20150215 | 20150213 | 15000 | 12000 | 8 | 1400 | 800 | 15500 | 222222 | 2 | 111113 | 1111121 |
| 111117 | 20150410 | 20150411 | 10000 | 10000 | 7 | 1500 | 500 | 7000 | 333333 | 1 | NULL | 1111131 |