```
nodeID(24) Filter ((isnotnull(i_item_sk#7) AND isnotnull(i_brand#15)) — nodeID(27) FileScan parquet tpcds_500_parquet.store_sales[ss_sold_date_sk#29,ss_item_sk#31,ss_store_sk#36,ss_sales_price#42
nodeID(23) BroadcastExchange HashedRelationBroadcastMode(List(cast(input[0, int, false] as bigint)),false), [plan_id=285] nodeID(26) Filter ((isnotnull(ss_item_sk#31) AND isnotnull(ss_sold_date_sk#29)) AND isnotnull(ss_store_sk#36))
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    nodeID(30) FileScan parquet tpcds_500_parquet.date_dim[d_date_sk#52,d_year#58,d_moy#60
                                                                                                                                                                                                                                 nodeID(22) BroadcastHashJoin [i_item_sk#7], [ss_item_sk#31], Inner, BuildLeft, false nodeID(29) Filter ((((d_year#58 = 1998) AND (d_moy#60 = 12))) OR ((d_year#58 = 2000) AND (d_year#58 = 2000) AN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 nodeID(51) FileScan parquet tpcds_500_parquet.item[i_item_sk#367,i_brand#375,i_category#379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    nodeID(50) Filter ((isnotnull(i_item_sk#367) AND isnotnull(i_brand#375)) nodeID(53) FileScan parquet tpcds_500_parquet.store_sales[ss_sold_date_sk#389,ss_item_sk#391,ss_store_sk#396,ss_sales_price#402
                                                                                                                                                                                                                          nodeID(21) Project [i_brand#15, i_category#19, ss_sold_date_sk#29, ss_store_sk#36, ss_sales_price#42] nodeID(28) BroadcastExchange HashedRelationBroadcastMode(List(cast(input[0, int, false] as bigint)),false), [plan_id=289] nodeID(28) BroadcastExchange HashedRelationBroadcastMode(List(cast(input[0, int, false] as bigint)),false), [plan_id=289]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             nodeID(20) BroadcastHashJoin [ss_sold_date_sk#29], [d_date_sk#52], Inner, BuildRight, false
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       nodeID(77) FileScan parquet tpcds_500_parquet.item[i_item_sk#474,i_brand#482,i_category#486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     nodeID(32) Filter ((isnotnull(s_store_sk#391) AND isnotnull(ss_store_sk#391) AND isnotnull(ss
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        nodeID(19) Project [i_brand#15, i_category#19, ss_store_sk#36, ss_sales_price#42, d_year#58, d_moy#60] nodeID(31) BroadcastExchange HashedRelationBroadcastMode(List(cast(input[0, int, false] as bigint)),false), [plan_id=293]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 nodeID(55) Filter ((((d_year#418 = 1999) OR ((d_year#418 = 1998) AND (d_moy#420 = 12))) OR ((d_year#418 = 2000) AND (d_moy#420 = 1))) AND isnotnull(d_date_sk#412))
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            nodeID(76) Filter ((isnotnull(i_item_sk#474) AND isnotnull(i_category#486)) AND isnotnull(i_brand#482)) — nodeID(79) FileScan parquet tpcds_500_parquet.store_sales[ss_sold_date_sk#496,ss_item_sk#498,ss_store_sk#503,ss_sales_price#509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           nodeID(48) BroadcastHashJoin [i_item_sk#367], [ss_item_sk#391], Inner, BuildLeft, false
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   nodeID(18) BroadcastHashJoin [ss_store_sk#36], [s_store_sk#80], Inner, BuildRight, false
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          nodeID(75) BroadcastExchange HashedRelationBroadcastMode(List(cast(input[0, int, false] as bigint)),false), [plan_id=312] nodeID(59) FileScan parquet tpcds_500_parquet.store[s_store_sk#498) AND isnotnull(ss_store_sk#498) AND isnotnull(ss_store_sk#4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    nodeID(17) Project [i_brand#15, i_category#19, ss_sales_price#42, d_year#58, d_moy#60, s_store_name#85, s_company_name#97]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          nodeID(46) BroadcastHashJoin [ss_sold_date_sk#389], [d_date_sk#412], Inner, BuildRight, false nodeID(58) Filter ((isnotnull(s_store_sk#440) AND isnotnull(s_store_name#445)) AND isnotnull(s_company_name#457))
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        nodeID(74) BroadcastHashJoin [i_item_sk#474], [ss_item_sk#498], Inner, BuildLeft, false
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           nodeID(81) Filter ((((d_year#525 = 1999) OR ((d_year#525 = 1998) AND (d_moy#527 = 12))) OR ((d_year#525 = 2000) AND (d_moy#527 = 1))) AND isnotnull(d_date_sk#519))
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              nodeID(45) Project [i_brand#375, i_category#379, ss_store_sk#396, ss_sales_price#402, d_year#418, d_moy#420] nodeID(57) BroadcastExchange HashedRelationBroadcastMode(List(cast(input[0, int, false] as bigint)),false), [plan_id=316]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 nodeID(73) Project [i_brand#482, i_category#486, ss_sold_date_sk#496, ss_store_sk#503, ss_sales_price#509] nodeID(80) BroadcastExchange HashedRelationBroadcastMode(List(cast(input[0, int, false] as bigint)), false), [plan_id=340] nodeID(80) BroadcastExchange HashedRelationBroadcastMode(List(cast(input[0, int, false] as bigint)), false), [plan_id=340] nodeID(80) BroadcastExchange HashedRelationBroadcastMode(List(cast(input[0, int, false] as bigint)), false), [plan_id=340] nodeID(80) BroadcastExchange HashedRelationBroadcastMode(List(cast(input[0, int, false] as bigint)), false), [plan_id=340] nodeID(80) BroadcastExchange HashedRelationBroadcastMode(List(cast(input[0, int, false] as bigint)), false), [plan_id=340] nodeID(80) BroadcastExchange HashedRelationBroadcastMode(List(cast(input[0, int, false] as bigint)), false), [plan_id=340] nodeID(80) BroadcastExchange HashedRelationBroadcastMode(List(cast(input[0, int, false] as bigint)), false), [plan_id=340] nodeID(80) BroadcastExchange HashedRelationBroadcastMode(List(cast(input[0, int, false] as bigint)), false), [plan_id=340] nodeID(80) BroadcastExchange HashedRelationBroadcastMode(List(cast(input[0, int, false) as bigint)), false), [plan_id=340] nodeID(80) BroadcastExchange HashedRelationBroadcastMode(List(cast(input[0, int, false) as bigint)), false), [plan_id=340] nodeID(80) BroadcastExchange HashedRelationBroadcastMode(List(cast(input[0, int, false) as bigint)), false), [plan_id=340] nodeID(80) BroadcastExchange HashedRelationBroadcastMode(List(cast(input[0, int, false) as bigint)), false), [plan_id=340] nodeID(80) BroadcastExchange HashedRelationBroadcastMode(List(cast(input[0, int, false) as bigint)), false), [plan_id=340] nodeID(80) BroadcastExchange HashedRelationBroadcastMode(List(cast(input[0, int, false) as bigint)), [plan_id=340] nodeID(80) BroadcastExchange HashedRelationBroadcastMode(List(cast(input[0, int, false) as bigint)), [plan_id=340] nodeID(80) BroadcastExchange HashedRelationBroadcastMode(List(cast(input[0, int, false) as bigint), [plan_id=3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           nodeID(16) HashAggregate(keys=[i_category#19, i_brand#15, s_store_name#85, s_company_name#97, d_year#58, d_moy#60], functions=[partial_sum(ss_sales_price#42)])
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            nodeID(72) BroadcastHashJoin [ss_sold_date_sk#496], [d_date_sk#519], Inner, BuildRight, false
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   nodeID(44) BroadcastHashJoin [ss_store_sk#396], [s_store_sk#440], Inner, BuildRight, false
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       nodeID(15) Exchange hashpartitioning(i_category#19, i_brand#15, s_store_name#85, s_company_name#97, d_year#58, d_moy#60, 200), ENSURE_REQUIREMENTS, [plan_id=298]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               nodeID(84) Filter ((isnotnull(s_store_sk#547) AND isnotnull(s_store_name#552)) AND isnotnull(s_company_name#564))
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               nodeID(71) Project [i_brand#482, i_category#486, ss_store_sk#503, ss_sales_price#509, d_year#525, d_moy#527] nodeID(83) BroadcastExchange HashedRelationBroadcastMode(List(cast(input[0, int, false] as bigint)),false), [plan_id=344]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   nodeID(14) HashAggregate(keys=[i_category#19, i_brand#15, s_store_name#85, s_company_name#97, d_year#58, d_moy#60], functions=[sum(ss_sales_price#42)])
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     nodeID(43) Project [i_brand#375, i_category#379, ss_sales_price#402, d_year#418, d_moy#420, s_store_name#445, s_company_name#457]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      nodeID(13) Exchange hashpartitioning(i_category#19, i_brand#15, s_store_name#85, s_company_name#97, 200), ENSURE_REQUIREMENTS, [plan_id=301]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     nodeID(42) HashAggregate(keys=[i_category#379, i_brand#375, s_store_name#445, s_company_name#457, d_year#418, d_moy#420], functions=[partial_sum(ss_sales_price#402)])
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       nodeID(70) BroadcastHashJoin [ss_store_sk#503], [s_store_sk#547], Inner, BuildRight, false
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  nodeID(69) Project [i_brand#482, i_category#486, ss_sales_price#509, d_year#525, d_moy#527, s_store_name#552, s_company_name#564]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  nodeID(12) Sort [i_category#19 ASC NULLS FIRST, i_brand#15 ASC NULLS FIRST, s_store_name#85 ASC NULLS FIRST, s_company_name#97 ASC NULLS FIRST, d_year#58 ASC NULLS FIRST, d_moy#60 ASC NULLS FIRST], false, 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 nodeID(41) Exchange hashpartitioning(i_category#379, i_brand#375, s_store_name#445, s_company_name#457, d_year#418, d_moy#420, 200), ENSURE_REQUIREMENTS, [plan_id=321]
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               nodeID(11) Window [rank(d_year#58, d_moy#60) windowspecdefinition(i_category#19, i_brand#15, s_store_name#85, s_company_name#97], [d_year#58 ASC NULLS FIRST, d_moy#60 ASC NUL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     nodeID(40) HashAggregate(keys=[i_category#379, i_brand#375, s_store_name#445, s_company_name#457, d_year#418, d_moy#420], functions=[sum(ss_sales_price#402)])
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      nodeID(10) Filter (isnotnull(d_year#58) AND (d_year#58 = 1999))
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              nodeID(39) Exchange hashpartitioning(i_category#379, i_brand#375, s_store_name#445, s_company_name#457, 200), ENSURE_REQUIREMENTS, [plan_id=324]
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         nodeID(66) HashAggregate(keys=[i_category#486, i_brand#482, s_store_name#552, s_company_name#564, d_year#525, d_moy#527], functions=[sum(ss_sales_price#509)])
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          nodeID(9) Window [avg(_w0#124) windowspecdefinition(i_category#19, i_brand#15, s_store_name#85, s_company_name#97, d_year#58, specifiedwindowframe(RowFrame, unboundedfollowing$())) AS avg_monthly_sales#1], [i_category#19, i_brand#15, s_store_name#85, s_company_name#97, d_year#58]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     nodeID(38) Sort [i_category#379 ASC NULLS FIRST, i_brand#375 ASC NULLS FIRST, s_store_name#445 ASC NULLS FIRST, s_company_name#457 ASC NULLS FIRST, d_year#418 ASC NULLS FIRST, d_moy#420 ASC NULLS FIRST], false, 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        nodeID(8) Filter ((isnotnull(avg_monthly_sales#1) AND (avg_monthly_sales#1 > 0.0)) AND CASE WHEN (avg_monthly_sales#1 > 0.0) THEN ((abs((sum_sales#0 - avg_monthly_sales#1)) / avg_monthly_sales#1) > 0.1) END)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  nodeID(37) Window [rank(d_year#418, d_moy#420) windowspecdefinition(i_category#379, i_brand#375, s_store_name#445, s_company_name#457], [d_year#418 ASC NULLS FIRST, d_moy#420 ASC NULL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  nodeID(65) Exchange hashpartitioning(i_category#486, i_brand#482, s_store_name#552, s_company_name#564, 200), ENSURE_REQUIREMENTS, [plan_id=352]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    nodeID(7) Project [i_category#19, i_brand#15, s_store_name#85, s_company_name#97, d_year#58, d_moy#60, sum_sales#0, avg_monthly_sales#1, rn#2]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       nodeID(36) Project [i_category#379, i_brand#375, s_store_name#445, s_company_name#457, sum_sales#0 AS sum_sales#131, rn#473]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 nodeID(64) Sort [i_category#486 ASC NULLS FIRST, i_brand#482 ASC NULLS FIRST, s_store_name#552 ASC NULLS FIRST, s_company_name#564 ASC NULLS FIRST, d_year#525 ASC NULLS FIRST, d_moy#527 ASC NULLS FIRST], false, 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     nodeID(6) Exchange hashpartitioning(i_category#19, i_brand#15, s_store_name#85, s_company_name#97, rn#2, 200), ENSURE_REQUIREMENTS, [plan_id=330]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 nodeID(35) Exchange hashpartitioning(i_category#379, i_brand#375, s_store_name#445, s_company_name#457, (rn#473 + 1), 200), ENSURE_REQUIREMENTS, [plan_id=331]
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                nodeID(62) Project [i_category#486, i_brand#482, s_store_name#552, s_company_name#564, sum_sales#0 AS sum_sales#140, rn#580]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     nodeID(5) Sort [i_category#19 ASC NULLS FIRST, i_brand#15 ASC NULLS FIRST, s_store_name#85 ASC NULLS FIRST, s_company_name#97 ASC NULLS FIRST, rn#2 ASC NULLS FIRST], false, 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           nodeID(34) Sort [i_category#379 ASC NULLS FIRST, i_brand#375 ASC NULLS FIRST, s_store_name#445 ASC NULLS FIRST, s_company_name#457 ASC NULLS FIRST, (rn#473 + 1) ASC NULLS FIRST], false, 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          nodeID(4) SortMergeJoin [i_category#19, i_brand#15, s_store_name#85, s_company_name#97, rn#2], [i_category#379, i_brand#375, s_store_name#445, s_company_name#457, (rn#473 + 1)], Inner
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   nodeID(60) Sort [i_category#486 ASC NULLS FIRST, i_brand#482 ASC NULLS FIRST, s_store_name#552 ASC NULLS FIRST, s_company_name#564 ASC NULLS FIRST, (rn#580 - 1) ASC NULLS FIRST], false, 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          nodeID(2) SortMergeJoin [i_category#19, i_brand#15, s_store_name#85, s_company_name#97, rn#2], [i_category#486, i_brand#482, s_store_name#552, s_company_name#564, (rn#580 - 1)], Inner
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    nodeID(1) Project [i_category#19, i_brand#15, s_store_name#85, s_company_name#97, d_year#58, d_moy#60, avg_monthly_sales#1, sum_sales#0, sum_sales#131 AS psum#3, sum_sales#140 AS nsum#4]
```

nodeID(25) FileScan parquet tpcds\_500\_parquet.item[i\_item\_sk#7,i\_brand#15,i\_category#19