nodeID(0)

nodeID(1) Project [customer_id#177, customer_first_name#178, customer_last_name#179, customer_preferred_cust_flag#180]

nodeID(2) SortMergeJoin [customer_id#0], [customer_id#197], Inner, (CASE WHEN (year_total#18 > 0.0) THEN (year_total#205 / year_total#18) ELSE 0.0 END > CASE WHEN (year_total#8 > 0.0) THEN (year_total#185 / year_total#8) ELSE 0.0 END)

nodeID(3) Project [customer_id#0, year_total#8, customer_id#177, customer_first_name#178, customer_last_name#179, customer_preferred_cust_flag#180, year_total#185, year_total#18]

nodeID(4) SortMergeJoin [customer_id#0], [customer_id#10], Inner

nodeID(5) SortMergeJoin [customer_id#0], [customer_id#177], Inner

nodeID(6) Sort [customer_id#0 ASC NULLS FIRST], false, 0

nodeID(7) Exchange hashpartitioning(customer_id#0, 200), ENSURE_REQUIREMENTS, [plan_id=287]

nodeID(8) Filter (isnotnull(year_total#8) AND (year_total#8 > 0.0))

nodeID(9) HashAggregate(keys=[c_customer_id#21, c_first_name#28, c_last_name#29, c_preferred_cust_flag#30, c_birth_country#34, c_login#35, c_email_address#36, d_year#67], functions=[sum((ss_ext_list_price#55 - ss_ext_discount_amt#52))])

nodeID(10) Exchange hashpartitioning(c_customer_id#21, c_first_name#28, c_last_name#29, c_preferred_cust_flag#30, c_birth_country#34, c_login#35, c_email_address#36, d_year#67, 200), ENSURE_REQUIREMENTS, [plan_id=267]

nodeID(11) HashAggregate(keys=[c_customer_id#21, c_first_name#28, c_last_name#29, c_preferred_cust_flag#30, c_birth_country#34, c_login#35, c_email_address#36, d_year#67], functions=[partial_sum((ss_ext_list_price#55 - ss_ext_discount_amt#52))])

nodeID(12) Project [c_customer_id#21, c_first_name#28, c_last_name#29, c_preferred_cust_flag#30, c_birth_country#34, c_login#35, c_email_address#36, ss_ext_discount_amt#52, ss_ext_list_price#55, d_year#67]

nodeID(13) BroadcastHashJoin [ss_sold_date_sk#38], [d_date_sk#61], Inner, BuildRight, false

nodeID(14) Project [c_customer_id#21, c_first_name#28, c_last_name#29, c_preferred_cust_flag#30, c_birth_country#34, c_login#35, c_email_address#36, ss_sold_date_sk#38, ss_ext_discount_amt#52, ss_ext_list_price#55]

nodeID(15) SortMergeJoin [c_customer_sk#20], [ss_customer_sk#41], Inner

nodeID(16) Sort [c_customer_sk#20 ASC NULLS FIRST], false, 0

nodeID(17) Exchange hashpartitioning(c_customer_sk#20, 200), ENSURE_REQUIREMENTS, [plan_id=255]

nodeID(18) Filter (isnotnull(c_customer_sk#20) AND isnotnull(c_customer_id#21))

nodeID(19) FileScan parquet tpcds_500_parquet.customer[c_customer_sk#20,c_customer_id#21,c_first_name#28,c_last_name#29,c_preferred_cust_flag#30,c_birth_country#34,c_login#35,c_email_address#36

nodeID(20) Sort [ss_customer_sk#41 ASC NULLS FIRST], false, 0

nodeID(21) Exchange hashpartitioning(ss_customer_sk#41, 200), ENSURE_REQUIREMENTS, [plan_id=256]

nodeID(22) Filter (isnotnull(ss_customer_sk#41) AND isnotnull(ss_sold_date_sk#38))

nodeID(23) FileScan parquet tpcds_500_parquet.store_sales[ss_sold_date_sk#38,ss_customer_sk#41,ss_ext_discount_amt#52,ss_ext_list_price#55

nodeID(24) BroadcastExchange HashedRelationBroadcastMode(List(cast(input[0, int, false] as bigint)),false), [plan_id=262]

nodeID(25) Filter ((isnotnull(d_year#67) AND (d_year#67 = 2001)) AND isnotnull(d_date_sk#61))

nodeID(26) FileScan parquet tpcds_500_parquet.date_dim[d_date_sk#61,d_year#67

nodeID(27) Sort [customer_id#177 ASC NULLS FIRST], false, 0

nodeID(28) Exchange hashpartitioning(customer_id#177, 200), ENSURE_REQUIREMENTS, [plan_id=288]

nodeID(29) HashAggregate(keys=[c_customer_id#689, c_first_name#696, c_last_name#697, c_preferred_cust_flag#698, c_birth_country#702, c_login#703, c_email_address#704, d_year#735], functions=[sum((ss_ext_list_price#723 - ss_ext_discount_amt#720))])

nodeID(30) Exchange hashpartitioning(c_customer_id#689, c_first_name#696, c_last_name#697, c_preferred_cust_flag#698, c_birth_country#702, c_login#703, c_email_address#704, d_year#735, 200), ENSURE_REQUIREMENTS, [plan_id=283]

nodeID(31) HashAggregate(keys=[c_customer_id#689, c_first_name#696, c_last_name#697, c_preferred_cust_flag#698, c_birth_country#702, c_login#703, c_email_address#704, d_year#735], functions=[partial_sum((ss_ext_list_price#723 - ss_ext_discount_amt#720))])

nodeID(32) Project [c_customer_id#689, c_first_name#696, c_last_name#697, c_preferred_cust_flag#698, c_birth_country#702, c_login#703, c_email_address#704, ss_ext_discount_amt#720, ss_ext_list_price#723, d_year#735]

nodeID(33) BroadcastHashJoin [ss_sold_date_sk#706], [d_date_sk#729], Inner, BuildRight, false

nodeID(34) Project [c_customer_id#689, c_first_name#696, c_last_name#697, c_preferred_cust_flag#698, c_birth_country#702, c_login#703, c_email_address#704, ss_sold_date_sk#706, ss_ext_discount_amt#720, ss_ext_list_price#723]

nodeID(35) SortMergeJoin [c_customer_sk#688], [ss_customer_sk#709], Inner

nodeID(36) Sort [c_customer_sk#688 ASC NULLS FIRST], false, 0

nodeID(37) Exchange hashpartitioning(c_customer_sk#688, 200), ENSURE_REQUIREMENTS, [plan_id=271]

nodeID(38) Filter (isnotnull(c_customer_sk#688) AND isnotnull(c_customer_id#689))

nodeID(39) FileScan parquet tpcds_500_parquet.customer[c_customer_sk#688,c_customer_id#689,c_first_name#696,c_last_name#697,c_preferred_cust_flag#698,c_birth_country#702,c_login#703,c_email_address#704

nodeID(40) Sort [ss_customer_sk#709 ASC NULLS FIRST], false, 0

nodeID(41) Exchange hashpartitioning(ss_customer_sk#709, 200), ENSURE_REQUIREMENTS, [plan_id=272]

nodeID(42) Filter (isnotnull(ss_customer_sk#709) AND isnotnull(ss_sold_date_sk#706))

nodeID(43) FileScan parquet tpcds_500_parquet.store_sales[ss_sold_date_sk#706,ss_customer_sk#709,ss_ext_discount_amt#720,ss_ext_list_price#723

nodeID(44) BroadcastExchange HashedRelationBroadcastMode(List(cast(input[0, int, false] as bigint)),false), [plan_id=278]

nodeID(45) Filter ((isnotnull(d_year#735) AND (d_year#735 = 2002)) AND isnotnull(d_date_sk#729))

nodeID(46) FileScan parquet tpcds_500_parquet.date_dim[d_date_sk#729,d_year#735

nodeID(47) Sort [customer_id#10 ASC NULLS FIRST], false, 0

nodeID(48) Exchange hashpartitioning(customer_id#10, 200), ENSURE_REQUIREMENTS, [plan_id=310]

nodeID(49) Filter (isnotnull(year_total#18) AND (year_total#18 > 0.0))

nodeID(50) HashAggregate(keys=[c_customer_id#917, c_first_name#924, c_last_name#925, c_preferred_cust_flag#926, c_birth_country#930, c_login#931, c_email_address#932, d_year#974], functions=[sum((ws_ext_list_price#959 - ws_ext_discount_amt#956))])

nodeID(51) Exchange hashpartitioning(c_customer_id#917, c_first_name#924, c_last_name#925, c_preferred_cust_flag#926, c_birth_country#930, c_login#931, c_email_address#932, d_year#974, 200), ENSURE_REQUIREMENTS, [plan_id=305]

nodeID(52) HashAggregate(keys=[c_customer_id#917, c_first_name#924, c_last_name#925, c_preferred_cust_flag#926, c_birth_country#930, c_login#931, c_email_address#932, d_year#974], functions=[partial_sum((ws_ext_list_price#959 - ws_ext_discount_amt#956))])

nodeID(53) Project [c_customer_id#917, c_first_name#924, c_last_name#925, c_preferred_cust_flag#926, c_birth_country#930, c_login#931, c_email_address#932, ws_ext_discount_amt#956, ws_ext_list_price#959, d_year#974]

nodeID(54) BroadcastHashJoin [ws_sold_date_sk#934], [d_date_sk#968], Inner, BuildRight, false

nodeID(55) Project [c_customer_id#917, c_first_name#924, c_last_name#925, c_preferred_cust_flag#926, c_birth_country#930, c_login#931, c_email_address#932, ws_sold_date_sk#934, ws_ext_discount_amt#956, ws_ext_list_price#959]

nodeID(56) SortMergeJoin [c_customer_sk#916], [ws_bill_customer_sk#938], Inner

nodeID(57) Sort [c_customer_sk#916 ASC NULLS FIRST], false, 0

nodeID(58) Exchange hashpartitioning(c_customer_sk#916, 200), ENSURE_REQUIREMENTS, [plan_id=293]

nodeID(59) Filter (isnotnull(c_customer_sk#916) AND isnotnull(c_customer_id#917))

nodeID(60) FileScan parquet tpcds_500_parquet.customer[c_customer_sk#916,c_customer_id#917,c_first_name#924,c_last_name#925,c_preferred_cust_flag#926,c_birth_country#930,c_login#931,c_email_address#932

nodeID(61) Sort [ws_bill_customer_sk#938 ASC NULLS FIRST], false, 0

nodeID(62) Exchange hashpartitioning(ws_bill_customer_sk#938, 200), ENSURE_REQUIREMENTS, [plan_id=294]

nodeID(63) Filter (isnotnull(ws_bill_customer_sk#938) AND isnotnull(ws_sold_date_sk#934))

nodeID(64) FileScan parquet tpcds_500_parquet.web_sales[ws_sold_date_sk#934,ws_bill_customer_sk#938,ws_ext_discount_amt#956,ws_ext_list_price#959

nodeID(65) BroadcastExchange HashedRelationBroadcastMode(List(cast(input[0, int, false] as bigint)),false), [plan_id=300]

nodeID(66) Filter ((isnotnull(d_year#974) AND (d_year#974 = 2001)) AND isnotnull(d_date_sk#968))

nodeID(67) FileScan parquet tpcds_500_parquet.date_dim[d_date_sk#968,d_year#974

nodeID(68) Sort [customer_id#197 ASC NULLS FIRST], false, 0

nodeID(69) Exchange hashpartitioning(customer_id#197, 200), ENSURE_REQUIREMENTS, [plan_id=331]

nodeID(70) HashAggregate(keys=[c_customer_id#1076, c_first_name#1083, c_last_name#1084, c_preferred_cust_flag#1085, c_birth_country#1089, c_login#1090, c_email_address#1091, d_year#1133], functions=[sum((ws_ext_list_price#1118 - ws_ext_discount_amt#1115))])

nodeID(71) Exchange hashpartitioning(c_customer_id#1076, c_first_name#1083, c_last_name#1084, c_preferred_cust_flag#1085, c_birth_country#1089, c_login#1090, c_email_address#1091, d_year#1133, 200), ENSURE_REQUIREMENTS, [plan_id=327]

nodeID(72) HashAggregate(keys=[c_customer_id#1076, c_first_name#1083, c_last_name#1084, c_preferred_cust_flag#1085, c_birth_country#1089, c_login#1090, c_email_address#1091, d_year#1133], functions=[partial_sum((ws_ext_list_price#1118 - ws_ext_discount_amt#1115))])

nodeID(73) Project [c_customer_id#1076, c_first_name#1083, c_last_name#1084, c_preferred_cust_flag#1085, c_birth_country#1089, c_login#1090, c_email_address#1091, ws_ext_discount_amt#1115, ws_ext_list_price#1118, d_year#1133]

nodeID(74) BroadcastHashJoin [ws_sold_date_sk#1093], [d_date_sk#1127], Inner, BuildRight, false

nodeID(75) Project [c_customer_id#1076, c_first_name#1083, c_last_name#1084, c_preferred_cust_flag#1085, c_birth_country#1089, c_login#1090, c_email_address#1091, ws_sold_date_sk#1093, ws_ext_discount_amt#1115, ws_ext_list_price#1118]

nodeID(76) SortMergeJoin [c_customer_sk#1075], [ws_bill_customer_sk#1097], Inner

nodeID(77) Sort [c_customer_sk#1075 ASC NULLS FIRST], false, 0

nodeID(78) Exchange hashpartitioning(c_customer_sk#1075, 200), ENSURE_REQUIREMENTS, [plan_id=315]

nodeID(79) Filter (isnotnull(c_customer_sk#1075) AND isnotnull(c_customer_id#1076))

nodeID(80) FileScan parquet tpcds_500_parquet.customer[c_customer_sk#1075,c_customer_id#1076,c_first_name#1083,c_last_name#1084,c_preferred_cust_flag#1085,c_birth_country#1089,c_login#1090,c_email_address#1091

nodeID(81) Sort [ws_bill_customer_sk#1097 ASC NULLS FIRST], false, 0

nodeID(82) Exchange hashpartitioning(ws_bill_customer_sk#1097, 200), ENSURE_REQUIREMENTS, [plan_id=316]

nodeID(83) Filter (isnotnull(ws_bill_customer_sk#1097) AND isnotnull(ws_sold_date_sk#1093))

nodeID(84) FileScan parquet tpcds_500_parquet.web_sales[ws_sold_date_sk#1093,ws_bill_customer_sk#1097,ws_ext_discount_amt#1115,ws_ext_list_price#1118

nodeID(85) BroadcastExchange HashedRelationBroadcastMode(List(cast(input[0, int, false] as bigint)),false), [plan_id=322]

nodeID(86) Filter ((isnotnull(d_year#1133) AND (d_year#1133 = 2002)) AND isnotnull(d_date_sk#1127))

nodeID(87) FileScan parquet tpcds_500_parquet.date_dim[d_date_sk#1127,d_year#1133