insert into [dbo].[customers] (customer\_id,first\_name,last\_name,address,city,state,zip)

values

(1,'John','Doe','123 Elm St','Toronto','ON','M4B1B3'),

(2, 'Jane', 'Smith', '456 Maple Ave', 'Ottawa', 'ON', 'K1A0B1'),

(3, 'Michael', 'Johnson', '789 Oak Dr', 'Montreal', 'QC', 'H1A1A1'),

(4, 'Emily', 'Davis', '101 Pine Rd', 'Calgary', 'AB', 'T2A0A1'),

(5, 'David', 'Wilson', '202 Birch Blvd', 'Vancouver', 'BC', 'V5K0A1'),

(6, 'Emma', 'Clark', '505 Cedar St', 'Halifax', 'NS', 'B3H0A1'),

(7, 'James', 'Martinez', '606 Spruce Ln', 'Winnipeg', 'MB', 'R3C0A1'),

(8, 'Olivia', 'Garcia', '707 Fir St', 'Edmonton', 'AB', 'T5A0A1'),

(9, 'William', 'Lopez', '808 Redwood Dr', 'Victoria', 'BC', 'V8W0A1'),

(10, 'Ava', 'Anderson', '909 Cypress Ave', 'Quebec City', 'QC', 'G1A0A1'),

(11, 'Alexander', 'Thomas', '1010 Willow Rd', 'St. Johns', 'NL', 'A1A0A1'),

(12, 'Isabella', 'Lee', '1111 Poplar St', 'Fredericton', 'NB', 'E3B0A1'),

(13, 'Daniel', 'Harris', '1212 Ash Blvd', 'Charlottetown', 'PE', 'C1A0A1'),

(14, 'Sophia', 'Young', '1313 Beech Dr', 'Yellowknife', 'NT', 'X1A0A1'),

(15, 'Matthew', 'King', '1414 Cedar Ln', 'Whitehorse', 'YT', 'Y1A0A1'),

(16, 'Charlotte', 'Scott', '1515 Elm St', 'Iqaluit', 'NU', 'X0A0A1'),

(17, 'Joseph', 'Green', '1616 Maple Ave', 'Regina', 'SK', 'S4P0A1'),

(18, 'Amelia', 'Adams', '1717 Oak Dr', 'Saskatoon', 'SK', 'S7K0A1'),

(19, 'Christopher', 'Baker', '1818 Pine Rd', 'Thunder Bay', 'ON', 'P7A0A1'),

(20, 'Mia', 'Nelson', '1919 Birch Blvd', 'London', 'ON', 'N6A0A1'),

(21, 'Andrew', 'Mitchell', '2020 Spruce Ln', 'Hamilton', 'ON', 'L8P0A1'),

(22, 'Harper', 'Roberts', '2121 Fir St', 'Kitchener', 'ON', 'N2G0A1'),

(23, 'Joshua', 'Turner', '2222 Redwood Dr', 'Windsor', 'ON', 'N9A0A1'),

(24, 'Evelyn', 'Phillips', '2323 Cypress Ave', 'Kingston', 'ON', 'K7L0A1'),

(25, 'Daniel', 'Campbell', '2424 Willow Rd', 'St. Catharines', 'ON', 'L2R0A1'),

(26, 'Abigail', 'Parker', '2525 Poplar St', 'Barrie', 'ON', 'L4M0A1'),

(27, 'James', 'Evans', '2626 Ash Blvd', 'Guelph', 'ON', 'N1H0A1'),

(28, 'Emily', 'Edwards', '2727 Beech Dr', 'Brantford', 'ON', 'N3T0A1'),

(29, 'Michael', 'Collins', '2828 Cedar Ln', 'Thunder Bay', 'ON', 'P7B0A1'),

(30, 'Elizabeth', 'Stewart', '2929 Elm St', 'Peterborough', 'ON', 'K9H0A1'),

(31, 'David', 'Sanchez', '3030 Maple Ave', 'North Bay', 'ON', 'P1B0A1'),

(32, 'Sophia', 'Morris', '3131 Oak Dr', 'Belleville', 'ON', 'K8N0A1'),

(33, 'John', 'Rogers', '3232 Pine Rd', 'Timmins', 'ON', 'P4N0A1'),

(34, 'Olivia', 'Reed', '3333 Birch Blvd', 'Orillia', 'ON', 'L3V0A1'),

(35, 'William', 'Cook', '3434 Spruce Ln', 'Midland', 'ON', 'L4R0A1'),

(36, 'Ava', 'Morgan', '3535 Fir St', 'Collingwood', 'ON', 'L9Y0A1'),

(37, 'Alexander', 'Bell', '3636 Redwood Dr', 'Stratford', 'ON', 'N5A0A1'),

(38, 'Isabella', 'Murphy', '3737 Cypress Ave', 'Woodstock', 'ON', 'N4S0A1'),

(39, 'Daniel', 'Bailey', '3838 Willow Rd', 'Orangeville', 'ON', 'L9W0A1'),

(40, 'Sophia', 'Rivera', '3939 Poplar St', 'Milton', 'ON', 'L9T0A1'),

(41, 'Matthew', 'Cooper', '4040 Ash Blvd', 'Georgetown', 'ON', 'L7G0A1'),

(42, 'Charlotte', 'Richardson', '4141 Beech Dr', 'Newmarket', 'ON', 'L3Y0A1'),

(43, 'Joseph', 'Cox', '4242 Cedar Ln', 'Aurora', 'ON', 'L4G0A1'),

(44, 'Amelia', 'Howard', '4343 Elm St', 'Bradford', 'ON', 'L3Z0A1'),

(45, 'Christopher', 'Ward', '4444 Maple Ave', 'Keswick', 'ON', 'L4P0A1'),

(46, 'Mia', 'Brooks', '4545 Oak Dr', 'Stouffville', 'ON', 'L4A0A1'),

(47, 'Andrew', 'Gray', '4646 Pine Rd', 'Uxbridge', 'ON', 'L9P0A1'),

(48, 'Harper', 'James', '4747 Birch Blvd', 'Port Perry', 'ON', 'L9L0A1'),

(49, 'Joshua', 'Bennett', '4848 Spruce Ln', 'Beaverton', 'ON', 'L0K0A1'),

(50, 'Evelyn', 'Barnes', '4949 Fir St', 'Sutton', 'ON', 'L0E0A1'),

(51, 'Daniel', 'Ross', '5050 Redwood Dr', 'Pefferlaw', 'ON', 'L0E0A1'),

(52, 'Abigail', 'Henderson', '5151 Cypress Ave', 'Mount Albert', 'ON', 'L0G0A1'),

(53, 'James', 'Jenkins', '5252 Willow Rd', 'Queensville', 'ON', 'L0G0A1'),

(54, 'Emily', 'Perry', '5353 Poplar St', 'Sharon', 'ON', 'L0G0A1'),

(55, 'Michael', 'Butler', '5454 Ash Blvd', 'Holland Landing', 'ON', 'L9N0A1'),

(56, 'Elizabeth', 'Long', '5555 Beech Dr', 'East Gwillimbury', 'ON', 'L9N0A1'),

(57, 'David', 'Patterson', '5656 Cedar Ln', 'King City', 'ON', 'L7B0A1'),

(58, 'Sophia', 'Hughes', '5757 Elm St', 'Nobleton', 'ON', 'L0G0A1'),

(59, 'John', 'Flores', '5858 Maple Ave', 'Schomberg', 'ON', 'L0G0A1'),

(60, 'Olivia', 'Washington', '5959 Oak Dr', 'Tottenham', 'ON', 'L0G0A1'),

(61, 'William', 'Butler', '6060 Pine Rd', 'Alliston', 'ON', 'L9R0A1'),

(62, 'Ava', 'Simmons', '6161 Birch Blvd', 'Angus', 'ON', 'L0M0A1'),

(63, 'Alexander', 'Foster', '6262 Spruce Ln', 'Stayner', 'ON', 'L0M0A1'),

(64, 'Isabella', 'Gonzalez', '6363 Fir St', 'Wasaga Beach', 'ON', 'L9Z0A1'),

(65, 'Daniel', 'Bryant', '6464 Redwood Dr', 'Elmvale', 'ON', 'L0L0A1'),

(66, 'Sophia', 'Alexander', '6565 Cypress Ave', 'Midland', 'ON', 'L4R0A1'),

(67, 'Matthew', 'Russell', '6666 Willow Rd', 'Penetanguishene', 'ON', 'L9M0A1'),

(68, 'Charlotte', 'Griffin', '6767 Poplar St', 'Victoria Harbour', 'ON', 'L0K0A1'),

(69, 'Joseph', 'Diaz', '6868 Ash Blvd', 'Port McNicoll', 'ON', 'L0K0A1'),

(70, 'Amelia', 'Hayes', '6969 Beech Dr', 'Waubaushene', 'ON', 'L0K0A1'),

(71, 'Christopher', 'Myers', '7070 Cedar Ln', 'Coldwater', 'ON', 'L0K0A1'),

(72, 'Mia', 'Ford', '7171 Elm St', 'Orillia', 'ON', 'L3V0A1'),

(73, 'Andrew', 'Hamilton', '7272 Maple Ave', 'Gravenhurst', 'ON', 'P1P0A1'),

(74, 'Harper', 'Graham', '7373 Oak Dr', 'Bala', 'ON', 'P0C0A1'),

(75, 'Joshua', 'Sullivan', '7474 Pine Rd', 'Bracebridge', 'ON', 'P1L0A1'),

(76, 'Evelyn', 'Wallace', '7575 Birch Blvd', 'Huntsville', 'ON', 'P1H0A1'),

(77, 'Daniel', 'Woods', '7676 Spruce Ln', 'Burks Falls', 'ON', 'P0A0A1'),

(78, 'Abigail', 'Cole', '7777 Fir St', 'Sundridge', 'ON', 'P0A0A1'),

(79, 'James', 'West', '7878 Redwood Dr', 'South River', 'ON', 'P0A0A1'),

(80, 'Emily', 'Jordan', '7979 Cypress Ave', 'North Bay', 'ON', 'P1B0A1'),

(81, 'Michael', 'Owens', '8080 Willow Rd', 'Mattawa', 'ON', 'P0H0A1'),

(82, 'Elizabeth', 'Reynolds', '8181 Poplar St', 'Sturgeon Falls', 'ON', 'P2B0A1'),

(83, 'David', 'Fisher', '8282 Ash Blvd', 'Verner', 'ON', 'P0H0A1'),

(84, 'Sophia', 'Ellis', '8383 Beech Dr', 'Field', 'ON', 'P0H0A1'),

(85, 'John', 'Harrison', '8484 Cedar Ln', 'Temagami', 'ON', 'P0H0A1'),

(86, 'Olivia', 'Gibson', '8585 Elm St', 'New Liskeard', 'ON', 'P0J0A1'),

(87, 'William', 'McDonald', '8686 Maple Ave', 'Haileybury', 'ON', 'P0J0A1');

INSERT INTO [dbo].[loans] (loan\_id, customer\_id, loan\_amount, interest\_rate, loan\_term) VALUES

(1, 45, 10000.50, 5.5, 36),

(2, 12, 20000.75, 4.5, 48),

(3, 78, 15000.00, 6.0, 60),

(4, 34, 30000.25, 3.5, 24),

(5, 56, 25000.00, 5.0, 36),

(6, 23, 17500.50, 4.0, 48),

(7, 89, 22500.75, 6.5, 60),

(8, 67, 27500.00, 3.0, 24),

(9, 14, 32500.25, 5.5, 36),

(10, 92, 37500.50, 4.5, 48),

(11, 3, 10000.75, 6.0, 60),

(12, 81, 20000.00, 3.5, 24),

(13, 29, 15000.25, 5.0, 36),

(14, 64, 30000.50, 4.0, 48),

(15, 47, 25000.75, 6.5, 60),

(16, 18, 17500.00, 3.0, 24),

(17, 99, 22500.25, 5.5, 36),

(18, 5, 27500.50, 4.5, 48),

(19, 76, 32500.75, 6.0, 60),

(20, 21, 37500.00, 3.5, 24),

(21, 53, 10000.25, 5.0, 36),

(22, 37, 20000.50, 4.0, 48),

(23, 88, 15000.75, 6.5, 60),

(24, 11, 30000.00, 3.0, 24),

(25, 66, 25000.25, 5.5, 36),

(26, 25, 17500.50, 4.5, 48),

(27, 94, 22500.75, 6.0, 60),

(28, 7, 27500.00, 3.5, 24),

(29, 58, 32500.25, 5.0, 36),

(30, 32, 37500.50, 4.0, 48),

(31, 71, 10000.75, 6.5, 60),

(32, 9, 20000.00, 3.0, 24),

(33, 85, 15000.25, 5.5, 36),

(34, 41, 30000.50, 4.5, 48),

(35, 62, 25000.75, 6.0, 60),

(36, 27, 17500.00, 3.5, 24),

(37, 98, 22500.25, 5.0, 36),

(38, 15, 27500.50, 4.0, 48),

(39, 74, 32500.75, 6.5, 60),

(40, 19, 37500.00, 3.0, 24),

(41, 51, 10000.25, 5.5, 36),

(42, 36, 20000.50, 4.5, 48),

(43, 83, 15000.75, 6.0, 60),

(44, 13, 30000.00, 3.5, 24),

(45, 68, 25000.25, 5.0, 36),

(46, 24, 17500.50, 4.0, 48),

(47, 95, 22500.75, 6.5, 60),

(48, 6, 27500.00, 3.0, 24),

(49, 57, 32500.25, 5.5, 36),

(50, 31, 37500.50, 4.5, 48),

(51, 72, 10000.75, 6.0, 60),

(52, 10, 20000.00, 3.5, 24),

(53, 86, 15000.25, 5.0, 36),

(54, 42, 30000.50, 4.0, 48),

(55, 63, 25000.75, 6.5, 60),

(56, 28, 17500.00, 3.0, 24),

(57, 97, 22500.25, 5.5, 36),

(58, 16, 27500.50, 4.5, 48),

(59, 75, 32500.75, 6.0, 60),

(60, 20, 37500.00, 3.5, 24),

(61, 52, 10000.25, 5.0, 36),

(62, 35, 20000.50, 4.0, 48),

(63, 84, 15000.75, 6.5, 60),

(64, 12, 30000.00, 3.0, 24),

(65, 69, 25000.25, 5.5, 36),

(66, 26, 17500.50, 4.5, 48),

(67, 96, 22500.75, 6.0, 60),

(68, 8, 27500.00, 3.5, 24),

(69, 59, 32500.25, 5.0, 36),

(70, 33, 37500.50, 4.0, 48),

(71, 73, 10000.75, 6.5, 60),

(72, 17, 20000.00, 3.0, 24),

(73, 87, 15000.25, 5.5, 36),

(74, 43, 30000.50, 4.5, 48),

(75, 61, 25000.75, 6.0, 60),

(76, 22, 17500.00, 3.5, 24),

(77, 91, 22500.25, 5.0, 36),

(78, 4, 27500.50, 4.0, 48),

(79, 55, 32500.75, 6.5, 60),

(80, 30, 37500.00, 3.0, 24),

(81, 70, 10000.25, 5.5, 36),

(82, 2, 20000.50, 4.5, 48),

(83, 82, 15000.75, 6.0, 60),

(84, 40, 30000.00, 3.5, 24),

(85, 65, 25000.25, 5.0, 36),

(86, 21, 17500.50, 4.0, 48),

(87, 93, 22500.75, 6.5, 60),

(88, 1, 27500.00, 3.0, 24),

(89, 54, 32500.25, 5.5, 36),

(90, 38, 37500.50, 4.5, 48),

(91, 77, 10000.75, 6.0, 60),

(92, 44, 20000.00, 3.5, 24),

(93, 79, 15000.25, 5.0, 36),

(94, 39, 30000.50, 4.0, 48),

(95, 60, 25000.75, 6.5, 60),

(96, 48, 17500.00, 3.0, 24),

(97, 90, 22500.25, 5.5, 36),

(98, 49, 27500.50, 4.5, 48),

(99, 80, 32500.75, 6.0, 60),

(100, 50, 37500.00, 3.5, 24);

-- Insert data into accounts

INSERT INTO [dbo].[accounts] (account\_id, customer\_id, account\_type, balance)

VALUES

(1, 45, 'Savings', 1000.50),

(2, 12, 'Checking', 2500.75),

(3, 78, 'Savings', 1500.00),

(4, 34, 'Checking', 3000.25),

(5, 56, 'Savings', 500.00),

(6, 23, 'Checking', 1200.50),

(7, 89, 'Savings', 800.75),

(8, 67, 'Checking', 2200.00),

(9, 14, 'Savings', 900.25),

(10, 92, 'Checking', 1800.50),

(11, 3, 'Savings', 1100.75),

(12, 81, 'Checking', 2700.00),

(13, 29, 'Savings', 1300.25),

(14, 64, 'Checking', 3200.50),

(15, 47, 'Savings', 700.75),

(16, 18, 'Checking', 1400.00),

(17, 99, 'Savings', 600.25),

(18, 5, 'Checking', 1600.50),

(19, 76, 'Savings', 400.75),

(20, 21, 'Checking', 2000.00),

(21, 53, 'Savings', 300.25),

(22, 37, 'Checking', 2400.50),

(23, 88, 'Savings', 200.75),

(24, 11, 'Checking', 2600.00),

(25, 66, 'Savings', 100.25),

(26, 25, 'Checking', 2800.50),

(27, 94, 'Savings', 50.75),

(28, 7, 'Checking', 2900.00),

(29, 58, 'Savings', 75.25),

(30, 32, 'Checking', 3100.50),

(31, 71, 'Savings', 125.75),

(32, 9, 'Checking', 3300.00),

(33, 85, 'Savings', 150.25),

(34, 41, 'Checking', 3500.50),

(35, 62, 'Savings', 175.75),

(36, 27, 'Checking', 3700.00),

(37, 98, 'Savings', 200.25),

(38, 15, 'Checking', 3900.50),

(39, 74, 'Savings', 225.75),

(40, 19, 'Checking', 4100.00),

(41, 51, 'Savings', 250.25),

(42, 36, 'Checking', 4300.50),

(43, 83, 'Savings', 275.75),

(44, 13, 'Checking', 4500.00),

(45, 68, 'Savings', 300.25),

(46, 24, 'Checking', 4700.50),

(47, 95, 'Savings', 325.75),

(48, 6, 'Checking', 4900.00),

(49, 57, 'Savings', 350.25),

(50, 31, 'Checking', 5100.50),

(51, 72, 'Savings', 375.75),

(52, 10, 'Checking', 5300.00),

(53, 86, 'Savings', 400.25),

(54, 42, 'Checking', 5500.50),

(55, 63, 'Savings', 425.75),

(56, 28, 'Checking', 5700.00),

(57, 97, 'Savings', 450.25),

(58, 16, 'Checking', 5900.50),

(59, 75, 'Savings', 475.75),

(60, 20, 'Checking', 6100.00),

(61, 52, 'Savings', 500.25),

(62, 35, 'Checking', 6300.50),

(63, 84, 'Savings', 525.75),

(64, 12, 'Checking', 6500.00),

(65, 69, 'Savings', 550.25),

(66, 26, 'Checking', 6700.50),

(67, 96, 'Savings', 575.75),

(68, 8, 'Checking', 6900.00),

(69, 59, 'Savings', 600.25),

(70, 33, 'Checking', 7100.50),

(71, 73, 'Savings', 625.75),

(72, 17, 'Checking', 7300.00),

(73, 87, 'Savings', 650.25),

(74, 43, 'Checking', 7500.50),

(75, 61, 'Savings', 675.75),

(76, 22, 'Checking', 7700.00),

(77, 91, 'Savings', 700.25),

(78, 4, 'Checking', 7900.50),

(79, 55, 'Savings', 725.75),

(80, 30, 'Checking', 8100.00),

(81, 70, 'Savings', 750.25),

(82, 2, 'Checking', 8300.50),

(83, 82, 'Savings', 775.75),

(84, 40, 'Checking', 8500.00),

(85, 65, 'Savings', 800.25),

(86, 21, 'Checking', 8700.50),

(87, 93, 'Savings', 825.75),

(88, 1, 'Checking', 8900.00),

(89, 54, 'Savings', 850.25),

(90, 38, 'Checking', 9100.00),

(91, 77, 'Savings', 875.75),

(92, 44, 'Checking', 9300.00),

(93, 79, 'Savings', 900.25),

(94, 39, 'Checking', 9500.00),

(95, 60, 'Savings', 925.75),

(96, 48, 'Checking', 9700.00),

(97, 90, 'Savings', 950.25),

(98, 49, 'Checking', 9900.50),

(99, 80, 'Savings', 975.75),

(100, 50, 'Checking', 10100.00);

INSERT INTO [dbo].[transactions] (transaction\_id, account\_id, transaction\_date, transaction\_amount, transaction\_type)

VALUES

(1, 45, '2024-01-01', 100.50, 'Deposit'),

(2, 12, '2024-01-02', 200.75, 'Withdrawal'),

(3, 78, '2024-01-03', 150.00, 'Deposit'),

(4, 34, '2024-01-04', 300.25, 'Withdrawal'),

(5, 56, '2024-01-05', 250.00, 'Deposit'),

(6, 23, '2024-01-06', 175.00, 'Withdrawal'),

(7, 89, '2024-01-07', 225.50, 'Deposit'),

(8, 67, '2024-01-08', 275.75, 'Withdrawal'),

(9, 14, '2024-01-09', 325.00, 'Deposit'),

(10, 92, '2024-01-10', 375.25, 'Withdrawal'),

(11, 3, '2024-01-11', 100.50, 'Deposit'),

(12, 81, '2024-01-12', 200.75, 'Withdrawal'),

(13, 29, '2024-01-13', 150.00, 'Deposit'),

(14, 64, '2024-01-14', 300.25, 'Withdrawal'),

(15, 47, '2024-01-15', 250.00, 'Deposit'),

(16, 18, '2024-01-16', 175.00, 'Withdrawal'),

(17, 99, '2024-01-17', 225.50, 'Deposit'),

(18, 5, '2024-01-18', 275.75, 'Withdrawal'),

(19, 76, '2024-01-19', 325.00, 'Deposit'),

(20, 21, '2024-01-20', 375.25, 'Withdrawal'),

(21, 53, '2024-01-21', 100.50, 'Deposit'),

(22, 37, '2024-01-22', 200.75, 'Withdrawal'),

(23, 88, '2024-01-23', 150.00, 'Deposit'),

(24, 11, '2024-01-24', 300.25, 'Withdrawal'),

(25, 66, '2024-01-25', 250.00, 'Deposit'),

(26, 25, '2024-01-26', 175.00, 'Withdrawal'),

(27, 94, '2024-01-27', 225.50, 'Deposit'),

(28, 7, '2024-01-28', 275.75, 'Withdrawal'),

(29, 58, '2024-01-29', 325.00, 'Deposit'),

(30, 32, '2024-01-30', 375.25, 'Withdrawal'),

(31, 71, '2024-01-31', 100.50, 'Deposit'),

(32, 9, '2024-02-01', 200.75, 'Withdrawal'),

(33, 85, '2024-02-02', 150.00, 'Deposit'),

(34, 41, '2024-02-03', 300.25, 'Withdrawal'),

(35, 62, '2024-02-04', 250.00, 'Deposit'),

(36, 27, '2024-02-05', 175.00, 'Withdrawal'),

(37, 98, '2024-02-06', 225.50, 'Deposit'),

(38, 15, '2024-02-07', 275.75, 'Withdrawal'),

(39, 74, '2024-02-08', 325.00, 'Deposit'),

(40, 19, '2024-02-09', 375.25, 'Withdrawal'),

(41, 51, '2024-02-10', 100.50, 'Deposit'),

(42, 36, '2024-02-11', 200.75, 'Withdrawal'),

(43, 83, '2024-02-12', 150.00, 'Deposit'),

(44, 13, '2024-02-13', 300.25, 'Withdrawal'),

(45, 68, '2024-02-14', 250.00, 'Deposit'),

(46, 24, '2024-02-15', 175.00, 'Withdrawal'),

(47, 95, '2024-02-16', 225.50, 'Deposit'),

(48, 6, '2024-02-17', 275.75, 'Withdrawal'),

(49, 57, '2024-02-18', 325.00, 'Deposit'),

(50, 31, '2024-02-19', 375.25, 'Withdrawal'),

(51, 72, '2024-02-20', 100.50, 'Deposit'),

(52, 10, '2024-02-21', 200.75, 'Withdrawal'),

(53, 86, '2024-02-22', 150.00, 'Deposit'),

(54, 42, '2024-02-23', 300.25, 'Withdrawal'),

(55, 63, '2024-02-24', 250.00, 'Deposit'),

(56, 28, '2024-02-25', 175.00, 'Withdrawal'),

(57, 97, '2024-02-26', 225.50, 'Deposit'),

(58, 16, '2024-02-27', 275.75, 'Withdrawal'),

(59, 75, '2024-02-28', 325.00, 'Deposit'),

(60, 20, '2024-02-29', 375.25, 'Withdrawal'),

(61, 52, '2024-03-01', 100.50, 'Deposit'),

(62, 35, '2024-03-02', 200.75, 'Withdrawal'),

(63, 84, '2024-03-03', 150.00, 'Deposit'),

(64, 12, '2024-03-04', 300.25, 'Withdrawal'),

(65, 69, '2024-03-05', 250.00, 'Deposit'),

(66, 26, '2024-03-06', 175.00, 'Withdrawal'),

(67, 96, '2024-03-07', 225.50, 'Deposit'),

(68, 8, '2024-03-08', 275.75, 'Withdrawal'),

(69, 59, '2024-03-09', 325.00, 'Deposit'),

(70, 33, '2024-03-10', 375.25, 'Withdrawal'),

(71, 73, '2024-03-11', 100.50, 'Deposit'),

(72, 17, '2024-03-12', 200.75, 'Withdrawal'),

(73, 87, '2024-03-13', 150.00, 'Deposit'),

(74, 43, '2024-03-14', 300.25, 'Withdrawal'),

(75, 61, '2024-03-15', 250.00, 'Deposit'),

(76, 22, '2024-03-16', 175.00, 'Withdrawal'),

(77, 91, '2024-03-17', 225.50, 'Deposit'),

(78, 4, '2024-03-18', 275.75, 'Withdrawal'),

(79, 55, '2024-03-19', 325.00, 'Deposit'),

(80, 30, '2024-03-20', 375.25, 'Withdrawal'),

(81, 70, '2024-03-21', 100.50, 'Deposit'),

(82, 2, '2024-03-22', 200.75, 'Withdrawal'),

(83, 82, '2024-03-23', 150.00, 'Deposit'),

(84, 40, '2024-03-24', 300.25, 'Withdrawal'),

(85, 65, '2024-03-25', 250.00, 'Deposit'),

(86, 21, '2024-03-26', 175.00, 'Withdrawal'),

(87, 93, '2024-03-27', 225.50, 'Deposit'),

(88, 1, '2024-03-28', 275.75, 'Withdrawal'),

(89, 54, '2024-03-29', 325.00, 'Deposit'),

(90, 38, '2024-03-30', 375.25, 'Withdrawal'),

(91, 77, '2024-03-31', 100.50, 'Deposit'),

(92, 44, '2024-04-01', 200.75, 'Withdrawal'),

(93, 79, '2024-04-02', 150.00, 'Deposit'),

(94, 39, '2024-04-03', 300.25, 'Withdrawal'),

(95, 60, '2024-04-04', 250.00, 'Deposit'),

(96, 48, '2024-04-05', 175.00, 'Withdrawal'),

(97, 90, '2024-04-06', 225.50, 'Deposit'),

(98, 49, '2024-04-07', 275.75, 'Withdrawal'),

(99, 80, '2024-04-08', 325.00, 'Deposit'),

(100, 50, '2024-04-09', 375.25, 'Withdrawal');

INSERT INTO [dbo].[loan\_payments] (payment\_id, loan\_id, payment\_date, payment\_amount) VALUES

(1, 45, '2024-01-01', 100.00),

(2, 23, '2024-01-02', 150.00),

(3, 67, '2024-01-03', 200.00),

(4, 89, '2024-01-04', 250.00),

(5, 12, '2024-01-05', 300.00),

(6, 34, '2024-01-06', 350.00),

(7, 56, '2024-01-07', 400.00),

(8, 78, '2024-01-08', 450.00),

(9, 90, '2024-01-09', 500.00),

(10, 11, '2024-01-10', 550.00),

(11, 22, '2024-01-11', 600.00),

(12, 33, '2024-01-12', 650.00),

(13, 44, '2024-01-13', 700.00),

(14, 55, '2024-01-14', 750.00),

(15, 66, '2024-01-15', 800.00),

(16, 77, '2024-01-16', 850.00),

(17, 88, '2024-01-17', 900.00),

(18, 99, '2024-01-18', 950.00),

(19, 10, '2024-01-19', 1000.00),

(20, 21, '2024-01-20', 1050.00),

(21, 32, '2024-01-21', 1100.00),

(22, 43, '2024-01-22', 1150.00),

(23, 54, '2024-01-23', 1200.00),

(24, 65, '2024-01-24', 1250.00),

(25, 76, '2024-01-25', 1300.00),

(26, 87, '2024-01-26', 1350.00),

(27, 98, '2024-01-27', 1400.00),

(28, 9, '2024-01-28', 1450.00),

(29, 20, '2024-01-29', 1500.00),

(30, 31, '2024-01-30', 1550.00),

(31, 42, '2024-01-31', 1600.00),

(32, 53, '2024-02-01', 1650.00),

(33, 64, '2024-02-02', 1700.00),

(34, 75, '2024-02-03', 1750.00),

(35, 86, '2024-02-04', 1800.00),

(36, 97, '2024-02-05', 1850.00),

(37, 8, '2024-02-06', 1900.00),

(38, 19, '2024-02-07', 1950.00),

(39, 30, '2024-02-08', 2000.00),

(40, 41, '2024-02-09', 2050.00),

(41, 52, '2024-02-10', 2100.00),

(42, 63, '2024-02-11', 2150.00),

(43, 74, '2024-02-12', 2200.00),

(44, 85, '2024-02-13', 2250.00),

(45, 96, '2024-02-14', 2300.00),

(46, 7, '2024-02-15', 2350.00),

(47, 18, '2024-02-16', 2400.00),

(48, 29, '2024-02-17', 2450.00),

(49, 40, '2024-02-18', 2500.00),

(50, 51, '2024-02-19', 2550.00),

(51, 62, '2024-02-20', 2600.00),

(52, 73, '2024-02-21', 2650.00),

(53, 84, '2024-02-22', 2700.00),

(54, 95, '2024-02-23', 2750.00),

(55, 6, '2024-02-24', 2800.00),

(56, 17, '2024-02-25', 2850.00),

(57, 28, '2024-02-26', 2900.00),

(58, 39, '2024-02-27', 2950.00),

(59, 50, '2024-02-28', 3000.00),

(60, 61, '2024-02-29', 3050.00),

(61, 72, '2024-03-01', 3100.00),

(62, 83, '2024-03-02', 3150.00),

(63, 94, '2024-03-03', 3200.00),

(64, 5, '2024-03-04', 3250.00),

(65, 16, '2024-03-05', 3300.00),

(66, 27, '2024-03-06', 3350.00),

(67, 38, '2024-03-07', 3400.00),

(68, 49, '2024-03-08', 3450.00),

(69, 60, '2024-03-09', 3500.00),

(70, 71, '2024-03-10', 3550.00),

(71, 82, '2024-03-11', 3600.00),

(72, 93, '2024-03-12', 3650.00),

(73, 4, '2024-03-13', 3700.00),

(74, 15, '2024-03-14', 3750.00),

(75, 26, '2024-03-15', 3800.00),

(76, 37, '2024-03-16', 3850.00),

(77, 48, '2024-03-17', 3900.00),

(78, 59, '2024-03-18', 3950.00),

(79, 70, '2024-03-19', 4000.00),

(80, 81, '2024-03-20', 4050.00),

(81, 92, '2024-03-21', 4100.00),

(82, 3, '2024-03-22', 4150.00),

(83, 14, '2024-03-23', 4200.00),

(84, 25, '2024-03-24', 4250.00),

(85, 36, '2024-03-25', 4300.00),

(86, 47, '2024-03-26', 4350.00),

(87, 58, '2024-03-27', 4400.00),

(88, 69, '2024-03-28', 4450.00),

(89, 80, '2024-03-29', 4500.00),

(90, 91, '2024-03-30', 4550.00),

(91, 2, '2024-03-31', 4600.00),

(92, 13, '2024-04-01', 4650.00),

(93, 24, '2024-04-02', 4700.00),

(94, 35, '2024-04-03', 4750.00),

(95, 46, '2024-04-04', 4800.00),

(96, 57, '2024-04-05', 4850.00),

(97, 68, '2024-04-06', 4900.00),

(98, 79, '2024-04-07', 4950.00),

(99, 1, '2024-04-08', 5000.00),

(100, 33, '2024-04-10', 1000.00);

### 4. Data Exploration

- Step 4.1: Write query to retrieve all customer information:

- Step 4.2: Query accounts for a specific customer:

- Step 4.3: Find the customer name and account balance for each account

- Step 4.4: Analyze customer loan balances:

- Step 4.5: List all customers who have made a transaction in the 2024-03

select \* from [dbo].[accounts]

where customer\_id = 45;

select concat(c.first\_name,' ',c.last\_name),a.balance from [dbo].[accounts] a

join [dbo].[customers] c on a.customer\_id = c.customer\_id;

select concat(c.first\_name,' ',c.last\_name),l.loan\_amount from [dbo].[loans] l

join [dbo].[customers] c on l.customer\_id = c.customer\_id;

select concat(c.first\_name,' ',c.last\_name),t.transaction\_date from [dbo].[transactions] t

join [dbo].[accounts] a on t.account\_id = a.account\_id

join [dbo].[customers] c on a.customer\_id = c.customer\_id

where t.transaction\_date LIKE '2024-03-%';

**# Aggregation Functions**

- Step 5.1: Calculate the total balance across all accounts for each customer:

   - Step 5.2: Calculate the average loan amount for each loan term:

   - Step 5.3: Find the total loan amount and interest across all loans:

   - Step 5.4: Find the most frequent transaction type

   - Step 5.5: Analyze transactions by account and transaction type:

select c.customer\_id,c.first\_name,c.last\_name,sum(a.balance) from [dbo].[accounts] a

join [dbo].[customers] c on a.customer\_id = c.customer\_id

group by c.customer\_id,c.first\_name,c.last\_name;

select loan\_term,avg(loan\_amount) from [dbo].[loans]

group by loan\_term

select sum(loan\_amount) as total\_loan, sum(loan\_amount \* (interest\_rate/100)) as total\_interest

from [dbo].[loans]

select top 1 transaction\_type,count(transaction\_id) as transactioncount from [dbo].[transactions]

group by transaction\_type

order by transactioncount desc;

select a.account\_type, t.transaction\_type, count(t.transaction\_id) as count\_transactions,SUM(t.transaction\_amount) AS total\_transaction\_amount from [dbo].[transactions] t

join [dbo].[accounts] a on t.account\_id = a.account\_id

group by a.account\_type,t.transaction\_type;

### Advanced Analysis

- Step 6.1: Create a view of active loans with payments greater than $1000:

- Step 6.2: Create an index on `transaction\_date` in the `transactions` table for performance optimization:

create view active\_loans\_1000 as

select \* from [dbo].[loan\_payments]

where payment\_amount > 1000;

create index idx\_transaction

on [dbo].[transactions](transaction\_date)

Azure Data Studio

