Group Members
UP2293300
UP2302347
UP2089114

Creating FM Clothing Store Database

Employee

```
db.employee.insertMany([
  {
    employee_id: "EMP001",
    first_name: "Budd",
    last_name: "Bunyard",
    job_title: "Manager",
    email: "bbunyard0@auda.org.au",
    phone_number: "972-176-0235"
  },
  {
    employee_id: "EMP002",
    first_name: "Earvin",
    last_name: "Bichener",
    job_title: "Customer Helper",
    email: "ebichener1@chron.com",
    phone_number: "991-739-8888"
  },
  {
    employee_id: "EMP003",
    first_name: "Fernando",
    last_name: "Wragg",
    job_title: "Sales Assistant",
    email: "fwragg2@timesonline.co.uk",
    phone_number: "652-730-7453"
  },
  {
    employee_id: "EMP004",
    first_name: "Slade",
    last_name: "Laurenson",
    job_title: "Sales Assistant",
    email: "slaurenson3@japanpost.jp",
    phone_number: "235-271-1137"
  },
  {
    employee_id: "EMP005",
    first_name: "Carolus",
    last_name: "Lacelett",
    job_title: "Sales Assistant",
    email: "clacelett4@domainmarket.com",
    phone_number: "493-803-6773"
  },
  {
    employee_id: "EMP006",
    first_name: "Grenville",
    last_name: "Terrell",
    job_title: "Manager",
    email: "gterrell5@illinois.edu",
    phone_number: "207-434-2166"
```

```
  },
  {
    employee_id: "EMP007",
    first_name: "Chad",
    last_name: "Soppit",
    job_title: "Sales Assistant",
    email: "csoppit6@opera.com",
    phone_number: "875-359-9140"
  },
  {
    employee_id: "EMP008",
    first_name: "Royal",
    last_name: "Parman",
    job_title: "Sales Assistant",
    email: "rparman7@wsj.com",
    phone_number: "113-241-8320"
  },
  {
    employee_id: "EMP009",
    first_name: "Rivy",
    last_name: "Casley",
    job_title: "Cashier",
    email: "rcasley8@typepad.com",
    phone_number: "291-430-6477"
  },
  {
    employee_id: "EMP010",
    first_name: "Mallory",
    last_name: "Coniff",
    job_title: "Sales Assistant",
    email: "mconiff9@exblog.jp",
    phone_number: "762-809-0594"
  },
  {
    employee_id: "EMP011",
    first_name: "Rourke",
    last_name: "Kerford",
    job_title: "Customer Helper",
    email: "rkerforda@mail.ru",
    phone_number: "852-392-8638"
  },
  {
    employee_id: "EMP012",
    first_name: "Annalee",
    last_name: "Dyott",
    job_title: "Manager",
    email: "adyottb@ustream.tv",
    phone_number: "694-899-3966"
  },
  {
    employee_id: "EMP013",
    first_name: "Rozanna",
    last_name: "Sheilds",
    job_title: "Customer Helper",
```

    email: "rsheildsc@newyorker.com",
    phone_number: "809-410-3836"
  },
  {
    employee_id: "EMP014",
    first_name: "Melba",
    last_name: "Tarbath",
    job_title: "Customer Helper",
    email: "mtarbathd@edublogs.org",
    phone_number: "661-503-2237"
  },
  {
    employee_id: "EMP015",
    first_name: "Laverne",
    last_name: "Fache",
    job_title: "Customer Helper",
    email: "lfachee@goodreads.com",
    phone_number: "480-120-2301"
  },
  {
    employee_id: "EMP016",
    first_name: "Cobby",
    last_name: "Classen",
    job_title: "Manager",
    email: "cclassenf@yellowbook.com",
    phone_number: "622-706-7360"
  },
  {
    employee_id: "EMP017",
    first_name: "Bil",
    last_name: "Mulrean",
    job_title: "Manager",
    email: "bmulreang@gizmodo.com",
    phone_number: "150-728-4424"
  },
  {
    employee_id: "EMP018",
    first_name: "Sonnie",
    last_name: "Lyes",
    job_title: "Manager",
    email: "slyesh@ocn.ne.jp",
    phone_number: "354-390-1002"
  },
  {
    employee_id: "EMP019",
    first_name: "Gregorio",
    last_name: "Reams",
    job_title: "Customer Helper",
    email: "greamsi@ebay.co.uk",
    phone_number: "278-138-2360"
  },
  {
    employee_id: "EMP020",
    first_name: "Cheryl",

```
    last_name: "Tockell",
    job_title: "Sales Assistant",
    email: "ctockellj@dagondesign.com",
    phone_number: "801-807-6236"
  }
]);
```

Manager

```
db.manager.insertMany([
  {
    Manager_ID: 65,
    Branch_ID: 'B001',
    Employee_ID: 25
  },
  {
    Manager_ID: 66,
    Branch_ID: 'B002',
    Employee_ID: 30
  },
  {
    Manager_ID: 67,
    Branch_ID: 'B003',
    Employee_ID: 36
  },
  {
    Manager_ID: 68,
    Branch_ID: 'B004',
    Employee_ID: 40
  },
  {
    Manager_ID: 69,
    Branch_ID: 'B005',
    Employee_ID: 41
  },
  {
    Manager_ID: 70,
    Branch_ID: 'B006',
    Employee_ID: 42
  }
]);
```

Shift Pattern

```
db.shift_pattern.insertMany([
  {
    Shift_Pattern_ID: 11,
    Shift_Start: "10:43:00",
    Shift_End: "15:33:00",
    Shift_Date: "2024-02-15",
```

```
    Branch_ID: "B001",  // Enclose in quotes
    Staff_ID: 51
  },
  {
    Shift_Pattern_ID: 12,
    Shift_Start: "09:46:00",
    Shift_End: "16:43:00",
    Shift_Date: "2024-04-01",
    Branch_ID: "B002",  // Enclose in quotes
    Staff_ID: 52
  },
  {
    Shift_Pattern_ID: 13,
    Shift_Start: "10:58:00",
    Shift_End: "16:29:00",
    Shift_Date: "2024-08-08",
    Branch_ID: "B003",  // Enclose in quotes
    Staff_ID: 53
  },
  {
    Shift_Pattern_ID: 14,
    Shift_Start: "11:08:00",
    Shift_End: "15:54:00",
    Shift_Date: "2024-01-18",
    Branch_ID: "B004",  // Enclose in quotes
    Staff_ID: 54
  },
  {
    Shift_Pattern_ID: 15,
    Shift_Start: "10:39:00",
    Shift_End: "16:16:00",
    Shift_Date: "2024-08-18",
    Branch_ID: "B005",  // Enclose in quotes
    Staff_ID: 55
  },
  {
    Shift_Pattern_ID: 16,
    Shift_Start: "10:18:00",
    Shift_End: "12:33:00",
    Shift_Date: "2024-07-20",
    Branch_ID: "B006",  // Enclose in quotes
    Staff_ID: 56
  },
  {
    Shift_Pattern_ID: 17,
    Shift_Start: "11:07:00",
    Shift_End: "14:23:00",
    Shift_Date: "2024-05-29",
    Branch_ID: "B001",  // Enclose in quotes
    Staff_ID: 57
  },
  {
    Shift_Pattern_ID: 18,
    Shift_Start: "09:37:00",
```

```
      Shift_End: "15:27:00",
      Shift_Date: "2024-08-11",
      Branch_ID: "B002",  // Enclose in quotes
      Staff_ID: 58
    },
    {
      Shift_Pattern_ID: 19,
      Shift_Start: "09:53:00",
      Shift_End: "16:06:00",
      Shift_Date: "2024-01-09",
      Branch_ID: "B003",  // Enclose in quotes
      Staff_ID: 59
    },
    {
      Shift_Pattern_ID: 20,
      Shift_Start: "10:15:00",
      Shift_End: "13:06:00",
      Shift_Date: "2024-03-16",
      Branch_ID: "B004",  // Enclose in quotes
      Staff_ID: 60
    },
    {
      Shift_Pattern_ID: 21,
      Shift_Start: "11:22:00",
      Shift_End: "14:31:00",
      Shift_Date: "2024-05-19",
      Branch_ID: "B005",  // Enclose in quotes
      Staff_ID: 61
    },
    {
      Shift_Pattern_ID: 22,
      Shift_Start: "11:09:00",
      Shift_End: "16:28:00",
      Shift_Date: "2024-04-15",
      Branch_ID: "B006",  // Enclose in quotes
      Staff_ID: 62
    },
    {
      Shift_Pattern_ID: 23,
      Shift_Start: "11:17:00",
      Shift_End: "14:39:00",
      Shift_Date: "2024-04-16",
      Branch_ID: "B001",  // Enclose in quotes
      Staff_ID: 63
    },
    {
      Shift_Pattern_ID: 24,
      Shift_Start: "11:13:00",
      Shift_End: "12:57:00",
      Shift_Date: "2024-08-03",
      Branch_ID: "B002",  // Enclose in quotes
      Staff_ID: 64
    }
]);
```

Branch

```
db.branch.insertMany([
 {
  Branch_id: "B001",
  Branch_name: "Waterlooville",
  Manager_id: "MGR123",
  Branch_Address: "All saint church street 12",
  Branch_number: "365-213-9341",
  Branch_email: "cpinch0@fda.gov",
  Shiftpattern_id: "SHIFT001"
 },
 {
  Branch_id: "B002",
  Branch_name: "Fareham",
  Manager_id: "MGR456",
  Branch_Address: "High street - street 2",
  Branch_number: "966-760-3472",
  Branch_email: "bbrandassi1@redcross.org",
  Shiftpattern_id: "SHIFT002"
 },
 {
  Branch_id: "B003",
  Branch_name: "Gosport",
  Manager_id: "MGR789",
  Branch_Address: "Saint Nicholas street 5",
  Branch_number: "714-722-9536",
  Branch_email: "roffin2@independent.co.uk",
  Shiftpattern_id: "SHIFT003"
 },
 {
  Branch_id: "B004",
  Branch_name: "Havant",
  Manager_id: "MGR321",
  Branch_Address: "Derby road street 3",
  Branch_number: "676-909-8730",
  Branch_email: "tsayse3@a8.net",
  Shiftpattern_id: "SHIFT004"
 },
 {
  Branch_id: "B005",
  Branch_name: "Chichester",
  Manager_id: "MGR654",
  Branch_Address: "Northbrook road street 4",
  Branch_number: "683-929-8231",
  Branch_email: "areyner4@51.la",
  Shiftpattern_id: "SHIFT005"
 },
 {
  Branch_id: "B006",
  Branch_name: "Portsmouth",
  Manager_id: "MGR987",
  Branch_Address: "Market road street 1",
```

```
    Branch_number: "755-887-7479",
    Branch_email: "aboswood5@bing.com",
    Shiftpattern_id: "SHIFT006"
  }
]);
```

Staff

```
db.staff.insertMany([
  {
    Staff_ID: 51,
    Shift_Pattern_ID: 11,
    Employee_ID: 26
  },
  {
    Staff_ID: 52,
    Shift_Pattern_ID: 12,
    Employee_ID: 27
  },
  {
    Staff_ID: 53,
    Shift_Pattern_ID: 13,
    Employee_ID: 28
  },
  {
    Staff_ID: 54,
    Shift_Pattern_ID: 14,
    Employee_ID: 29
  },
  {
    Staff_ID: 55,
    Shift_Pattern_ID: 15,
    Employee_ID: 31
  },
  {
    Staff_ID: 56,
    Shift_Pattern_ID: 16,
    Employee_ID: 32
  },
  {
    Staff_ID: 57,
    Shift_Pattern_ID: 17,
    Employee_ID: 33
  },
  {
    Staff_ID: 58,
    Shift_Pattern_ID: 18,
    Employee_ID: 34
  },
  {
    Staff_ID: 59,
    Shift_Pattern_ID: 19,
```

```
    Employee_ID: 35
  },
  {
    Staff_ID: 60,
    Shift_Pattern_ID: 20,
    Employee_ID: 37
  },
  {
    Staff_ID: 61,
    Shift_Pattern_ID: 21,
    Employee_ID: 38
  },
  {
    Staff_ID: 62,
    Shift_Pattern_ID: 22,
    Employee_ID: 39
  },
  {
    Staff_ID: 63,
    Shift_Pattern_ID: 23,
    Employee_ID: 43
  },
  {
    Staff_ID: 64,
    Shift_Pattern_ID: 24,
    Employee_ID: 44
  }
]);
```

Product Category

```
db.productcategory.insertMany([
  {
    Category_ID: 100,
    Category_Name: "Men"
  },
  {
    Category_ID: 200,
    Category_Name: "Women"
  },
  {
    Category_ID: 300,
    Category_Name: "Kids"
  },
  {
    Category_ID: 400,
    Category_Name: "Sport"
  },
  {
    Category_ID: 500,
    Category_Name: "Home"
```

```
  },
  {
    Category_ID: 600,
    Category_Name: "Beauty"
  }
]);
```

Product

db.product.insertMany([
{"Product_id":"P4193","Product_Description":"Sleek leather wallet with RFID protection","Size":"S","Composition":"jojoba oil","Price":"£275.92","Category_id":"C004"},
{"Product_id":"P5845","Product_Description":"Classic denim jeans with distressed detailing","Size":"XL","Composition":"sodium chloride","Price":"£273.02","Category_id":"C003"},
{"Product_id":"P7483","Product_Description":"Stylish leather handbag with adjustable strap","Size":"L","Composition":"glycerin","Price":"£287.31","Category_id":"C006"},
{"Product_id":"P9191","Product_Description":"Chic faux fur coat for cold weather","Size":"L","Composition":"vitamin E","Price":"£85.28","Category_id":"C006"},
{"Product_id":"P0656","Product_Description":"Chic faux fur coat for cold weather","Size":"L","Composition":"shea butter","Price":"£72.59","Category_id":"C005"},
{"Product_id":"P6557","Product_Description":"Classic denim jeans with distressed detailing","Size":"XXL","Composition":"coconut oil","Price":"£12.88","Category_id":"C004"},
{"Product_id":"P9979","Product_Description":"Soft cotton t-shirt with graphic print","Size":"L","Composition":"water","Price":"£179.30","Category_id":"C004"},
{"Product_id":"P3848","Product_Description":"Classic denim jeans with distressed detailing","Size":"XL","Composition":"shea butter","Price":"£226.48","Category_id":"C006"},
{"Product_id":"P1917","Product_Description":"Sporty nylon backpack with multiple compartments","Size":"L","Composition":"jojoba oil","Price":"£105.56","Category_id":"C002"},
{"Product_id":"P2806","Product_Description":"Elegant silk scarf with floral pattern","Size":"XS","Composition":"tea tree oil","Price":"£113.03","Category_id":"C004"},
{"Product_id":"P4722","Product_Description":"Elegant silk scarf with floral pattern","Size":"S","Composition":"shea butter","Price":"£90.43","Category_id":"C005"},
{"Product_id":"P6856","Product_Description":"Soft cotton t-shirt with graphic print","Size":"XS","Composition":"jojoba oil","Price":"£250.45","Category_id":"C004"},
{"Product_id":"P9659","Product_Description":"Cozy knit sweater in a variety of colors","Size":"XL","Composition":"vitamin E","Price":"£187.29","Category_id":"C005"},
{"Product_id":"P4134","Product_Description":"Quirky enamel pin set for decorating jackets and bags","Size":"XL","Composition":"vitamin E","Price":"£107.32","Category_id":"C002"},
{"Product_id":"P2385","Product_Description":"Quirky enamel pin set for decorating jackets and bags","Size":"XS","Composition":"jojoba oil","Price":"£5.94","Category_id":"C004"},
{"Product_id":"P6278","Product_Description":"Cozy knit sweater in a variety of colors","Size":"L","Composition":"shea butter","Price":"£245.43","Category_id":"C003"},
{"Product_id":"P6136","Product_Description":"Soft cotton t-shirt with graphic print","Size":"M","Composition":"shea butter","Price":"£78.35","Category_id":"C001"},
{"Product_id":"P5414","Product_Description":"Classic denim jeans with distressed detailing","Size":"XS","Composition":"aloe vera","Price":"£54.98","Category_id":"C003"},
{"Product_id":"P5201","Product_Description":"Elegant silk scarf with floral pattern","Size":"XXL","Composition":"jojoba oil","Price":"£228.70","Category_id":"C002"},
{"Product_id":"P0899","Product_Description":"Classic denim jeans with distressed detailing","Size":"XXL","Composition":"jojoba oil","Price":"£141.77","Category_id":"C005"},
```

{"Product_id":"P3984","Product_Description":"Soft cotton t-shirt with graphic print","Size":"XL","Composition":"vitamin E","Price":"£180.22","Category_id":"C004"},
{"Product_id":"P9507","Product_Description":"Sleek leather wallet with RFID protection","Size":"XS","Composition":"fragrance","Price":"£217.61","Category_id":"C001"},
{"Product_id":"P6752","Product_Description":"Stylish leather handbag with adjustable strap","Size":"XL","Composition":"jojoba oil","Price":"£40.51","Category_id":"C006"},
{"Product_id":"P3663","Product_Description":"Stylish leather handbag with adjustable strap","Size":"XXL","Composition":"water","Price":"£297.60","Category_id":"C004"},
{"Product_id":"P8469","Product_Description":"Sporty nylon backpack with multiple compartments","Size":"L","Composition":"tea tree oil","Price":"£295.29","Category_id":"C002"},
{"Product_id":"P8916","Product_Description":"Classic denim jeans with distressed detailing","Size":"XL","Composition":"sodium chloride","Price":"£146.67","Category_id":"C004"},
{"Product_id":"P3338","Product_Description":"Sleek leather wallet with RFID protection","Size":"S","Composition":"coconut oil","Price":"£147.85","Category_id":"C003"},
{"Product_id":"P1633","Product_Description":"Cozy knit sweater in a variety of colors","Size":"L","Composition":"fragrance","Price":"£161.58","Category_id":"C002"},
{"Product_id":"P6609","Product_Description":"Stylish leather handbag with adjustable strap","Size":"L","Composition":"jojoba oil","Price":"£16.85","Category_id":"C001"},
{"Product_id":"P0244","Product_Description":"Sporty nylon backpack with multiple compartments","Size":"M","Composition":"glycerin","Price":"£275.91","Category_id":"C006"},
{"Product_id":"P3103","Product_Description":"Chic faux fur coat for cold weather","Size":"M","Composition":"sodium chloride","Price":"£138.04","Category_id":"C001"},
{"Product_id":"P0251","Product_Description":"Elegant silk scarf with floral pattern","Size":"XS","Composition":"sodium chloride","Price":"£63.97","Category_id":"C004"},
{"Product_id":"P1700","Product_Description":"Elegant silk scarf with floral pattern","Size":"XL","Composition":"aloe vera","Price":"£34.37","Category_id":"C005"},
{"Product_id":"P8149","Product_Description":"Quirky enamel pin set for decorating jackets and bags","Size":"XXL","Composition":"shea butter","Price":"£52.26","Category_id":"C004"},
{"Product_id":"P0622","Product_Description":"Sleek leather wallet with RFID protection","Size":"M","Composition":"shea butter","Price":"£49.88","Category_id":"C003"},
{"Product_id":"P0551","Product_Description":"Quirky enamel pin set for decorating jackets and bags","Size":"L","Composition":"water","Price":"£76.08","Category_id":"C003"},
{"Product_id":"P3100","Product_Description":"Durable stainless steel water bottle with flip-top lid","Size":"XL","Composition":"jojoba oil","Price":"£282.60","Category_id":"C005"},
{"Product_id":"P0898","Product_Description":"Sleek leather wallet with RFID protection","Size":"XS","Composition":"shea butter","Price":"£207.31","Category_id":"C005"},
{"Product_id":"P8500","Product_Description":"Sleek leather wallet with RFID protection","Size":"XS","Composition":"coconut oil","Price":"£179.01","Category_id":"C001"},
{"Product_id":"P4508","Product_Description":"Classic denim jeans with distressed detailing","Size":"XL","Composition":"vitamin E","Price":"£200.42","Category_id":"C006"},
{"Product_id":"P1956","Product_Description":"Quirky enamel pin set for decorating jackets and bags","Size":"XS","Composition":"shea butter","Price":"£278.73","Category_id":"C005"},
{"Product_id":"P9533","Product_Description":"Chic faux fur coat for cold weather","Size":"XXL","Composition":"coconut oil","Price":"£212.03","Category_id":"C001"},
{"Product_id":"P1109","Product_Description":"Soft cotton t-shirt with graphic print","Size":"XXL","Composition":"aloe vera","Price":"£238.25","Category_id":"C006"},
{"Product_id":"P3404","Product_Description":"Elegant silk scarf with floral pattern","Size":"S","Composition":"fragrance","Price":"£73.99","Category_id":"C002"},

{"Product_id":"P1716","Product_Description":"Soft cotton t-shirt with graphic print","Size":"XS","Composition":"glycerin","Price":"£108.08","Category_id":"C003"},
{"Product_id":"P8098","Product_Description":"Classic denim jeans with distressed detailing","Size":"XXL","Composition":"shea butter","Price":"£99.26","Category_id":"C002"},
{"Product_id":"P3823","Product_Description":"Chic faux fur coat for cold weather","Size":"XL","Composition":"glycerin","Price":"£149.55","Category_id":"C005"},
{"Product_id":"P3060","Product_Description":"Sleek leather wallet with RFID protection","Size":"L","Composition":"jojoba oil","Price":"£106.04","Category_id":"C002"},
{"Product_id":"P5918","Product_Description":"Quirky enamel pin set for decorating jackets and bags","Size":"L","Composition":"shea butter","Price":"£291.41","Category_id":"C001"},
{"Product_id":"P4724","Product_Description":"Classic denim jeans with distressed detailing","Size":"XXL","Composition":"water","Price":"£44.29","Category_id":"C002"},
{"Product_id":"P6471","Product_Description":"Quirky enamel pin set for decorating jackets and bags","Size":"XS","Composition":"sodium chloride","Price":"£32.09","Category_id":"C001"},
{"Product_id":"P4062","Product_Description":"Quirky enamel pin set for decorating jackets and bags","Size":"XS","Composition":"tea tree oil","Price":"£251.51","Category_id":"C003"},
{"Product_id":"P3245","Product_Description":"Sporty nylon backpack with multiple compartments","Size":"L","Composition":"tea tree oil","Price":"£87.80","Category_id":"C005"},
{"Product_id":"P6512","Product_Description":"Stylish leather handbag with adjustable strap","Size":"XS","Composition":"glycerin","Price":"£126.07","Category_id":"C006"},
{"Product_id":"P4840","Product_Description":"Classic denim jeans with distressed detailing","Size":"XL","Composition":"vitamin E","Price":"£101.95","Category_id":"C002"},
{"Product_id":"P1819","Product_Description":"Sleek leather wallet with RFID protection","Size":"L","Composition":"aloe vera","Price":"£274.93","Category_id":"C004"},
{"Product_id":"P0724","Product_Description":"Classic denim jeans with distressed detailing","Size":"XXL","Composition":"tea tree oil","Price":"£202.72","Category_id":"C004"},
{"Product_id":"P5204","Product_Description":"Durable stainless steel water bottle with flip-top lid","Size":"S","Composition":"coconut oil","Price":"£45.69","Category_id":"C004"},
{"Product_id":"P1783","Product_Description":"Soft cotton t-shirt with graphic print","Size":"XL","Composition":"sodium chloride","Price":"£213.81","Category_id":"C004"},
{"Product_id":"P0501","Product_Description":"Classic denim jeans with distressed detailing","Size":"S","Composition":"fragrance","Price":"£73.24","Category_id":"C004"},
{"Product_id":"P9522","Product_Description":"Classic denim jeans with distressed detailing","Size":"XXL","Composition":"jojoba oil","Price":"£149.93","Category_id":"C006"},
{"Product_id":"P8209","Product_Description":"Stylish leather handbag with adjustable strap","Size":"XS","Composition":"coconut oil","Price":"£38.53","Category_id":"C002"},
{"Product_id":"P6743","Product_Description":"Sporty nylon backpack with multiple compartments","Size":"XS","Composition":"water","Price":"£259.02","Category_id":"C005"},
{"Product_id":"P4639","Product_Description":"Chic faux fur coat for cold weather","Size":"XS","Composition":"fragrance","Price":"£27.93","Category_id":"C006"},
{"Product_id":"P2762","Product_Description":"Quirky enamel pin set for decorating jackets and bags","Size":"L","Composition":"glycerin","Price":"£87.11","Category_id":"C001"},
{"Product_id":"P9862","Product_Description":"Stylish leather handbag with adjustable strap","Size":"XXL","Composition":"glycerin","Price":"£139.03","Category_id":"C004"},
{"Product_id":"P9764","Product_Description":"Cozy knit sweater in a variety of colors","Size":"XL","Composition":"sodium chloride","Price":"£236.90","Category_id":"C006"},
{"Product_id":"P7588","Product_Description":"Elegant silk scarf with floral pattern","Size":"XS","Composition":"water","Price":"£78.29","Category_id":"C004"},
{"Product_id":"P4358","Product_Description":"Elegant silk scarf with floral pattern","Size":"XS","Composition":"water","Price":"£84.30","Category_id":"C004"},

{"Product_id":"P6377","Product_Description":"Stylish leather handbag with adjustable strap","Size":"XS","Composition":"jojoba oil","Price":"£216.38","Category_id":"C002"},
{"Product_id":"P0694","Product_Description":"Quirky enamel pin set for decorating jackets and bags","Size":"XL","Composition":"jojoba oil","Price":"£96.26","Category_id":"C003"},
{"Product_id":"P0036","Product_Description":"Sleek leather wallet with RFID protection","Size":"XS","Composition":"vitamin E","Price":"£13.20","Category_id":"C001"},
{"Product_id":"P1103","Product_Description":"Quirky enamel pin set for decorating jackets and bags","Size":"XS","Composition":"shea butter","Price":"£231.73","Category_id":"C001"},
{"Product_id":"P8247","Product_Description":"Soft cotton t-shirt with graphic print","Size":"L","Composition":"fragrance","Price":"£162.29","Category_id":"C004"},
{"Product_id":"P8246","Product_Description":"Soft cotton t-shirt with graphic print","Size":"XS","Composition":"jojoba oil","Price":"£98.86","Category_id":"C001"},
{"Product_id":"P2044","Product_Description":"Chic faux fur coat for cold weather","Size":"XS","Composition":"jojoba oil","Price":"£141.37","Category_id":"C001"},
{"Product_id":"P7002","Product_Description":"Cozy knit sweater in a variety of colors","Size":"L","Composition":"shea butter","Price":"£95.84","Category_id":"C004"},
{"Product_id":"P7082","Product_Description":"Sleek leather wallet with RFID protection","Size":"M","Composition":"glycerin","Price":"£30.93","Category_id":"C003"},
{"Product_id":"P8610","Product_Description":"Stylish leather handbag with adjustable strap","Size":"XS","Composition":"coconut oil","Price":"£115.65","Category_id":"C006"},
{"Product_id":"P3751","Product_Description":"Stylish leather handbag with adjustable strap","Size":"L","Composition":"sodium chloride","Price":"£54.76","Category_id":"C005"},
{"Product_id":"P4747","Product_Description":"Cozy knit sweater in a variety of colors","Size":"XL","Composition":"aloe vera","Price":"£182.73","Category_id":"C004"},
{"Product_id":"P0179","Product_Description":"Durable stainless steel water bottle with flip-top lid","Size":"XXL","Composition":"coconut oil","Price":"£132.96","Category_id":"C004"},
{"Product_id":"P7183","Product_Description":"Cozy knit sweater in a variety of colors","Size":"M","Composition":"vitamin E","Price":"£281.11","Category_id":"C006"},
{"Product_id":"P7406","Product_Description":"Classic denim jeans with distressed detailing","Size":"L","Composition":"water","Price":"£235.04","Category_id":"C005"},
{"Product_id":"P3235","Product_Description":"Durable stainless steel water bottle with flip-top lid","Size":"L","Composition":"aloe vera","Price":"£241.95","Category_id":"C004"},
{"Product_id":"P4123","Product_Description":"Quirky enamel pin set for decorating jackets and bags","Size":"L","Composition":"coconut oil","Price":"£258.05","Category_id":"C004"},
{"Product_id":"P3789","Product_Description":"Cozy knit sweater in a variety of colors","Size":"XXL","Composition":"aloe vera","Price":"£259.30","Category_id":"C006"},
{"Product_id":"P0195","Product_Description":"Stylish leather handbag with adjustable strap","Size":"L","Composition":"glycerin","Price":"£270.52","Category_id":"C006"},
{"Product_id":"P0068","Product_Description":"Soft cotton t-shirt with graphic print","Size":"XL","Composition":"fragrance","Price":"£27.56","Category_id":"C001"},
{"Product_id":"P7588","Product_Description":"Soft cotton t-shirt with graphic print","Size":"M","Composition":"jojoba oil","Price":"£94.86","Category_id":"C003"},
{"Product_id":"P2648","Product_Description":"Classic denim jeans with distressed detailing","Size":"XS","Composition":"sodium chloride","Price":"£38.32","Category_id":"C001"},
{"Product_id":"P9392","Product_Description":"Stylish leather handbag with adjustable strap","Size":"L","Composition":"shea butter","Price":"£104.47","Category_id":"C003"},
{"Product_id":"P6394","Product_Description":"Soft cotton t-shirt with graphic print","Size":"M","Composition":"glycerin","Price":"£238.32","Category_id":"C006"},
{"Product_id":"P3315","Product_Description":"Stylish leather handbag with adjustable strap","Size":"L","Composition":"water","Price":"£130.16","Category_id":"C002"},
{"Product_id":"P9528","Product_Description":"Stylish leather handbag with adjustable strap","Size":"S","Composition":"water","Price":"£117.45","Category_id":"C001"},

{"Product_id":"P4833","Product_Description":"Durable stainless steel water bottle with flip-top lid","Size":"M","Composition":"tea tree oil","Price":"£121.86","Category_id":"C004"},
{"Product_id":"P3207","Product_Description":"Soft cotton t-shirt with graphic print","Size":"L","Composition":"water","Price":"£210.06","Category_id":"C006"},
{"Product_id":"P0110","Product_Description":"Chic faux fur coat for cold weather","Size":"S","Composition":"water","Price":"£159.38","Category_id":"C005"},
{"Product_id":"P5084","Product_Description":"Chic faux fur coat for cold weather","Size":"L","Composition":"jojoba oil","Price":"£29.55","Category_id":"C003"},
{"Product_id":"P8222","Product_Description":"Stylish leather handbag with adjustable strap","Size":"XS","Composition":"jojoba oil","Price":"£158.45","Category_id":"C003"}
]);

**Inventory**

```
db.inventory.insertMany([
  {
    Inventory_ID: 101,
    Product_ID: "P4193",
    Branch_ID: "B001",
    Stock_Quantity: 150,
    Restock_Date: "2024-11-01"
  },
  {
    Inventory_ID: 201,
    Product_ID: "P5845",
    Branch_ID: "B002",
    Stock_Quantity: 120,
    Restock_Date: "2024-11-01"
  },
  {
    Inventory_ID: 301,
    Product_ID: "P7483",
    Branch_ID: "B003",
    Stock_Quantity: 120,
    Restock_Date: "2024-11-01"
  },
  {
    Inventory_ID: 401,
    Product_ID: "P9191",
    Branch_ID: "B004",
    Stock_Quantity: 0,
    Restock_Date: "2024-11-01"
  },
  {
    Inventory_ID: 501,
    Product_ID: "P0656",
    Branch_ID: "B005",
    Stock_Quantity: 80,
    Restock_Date: "2024-11-01"
  },
  {
    Inventory_ID: 601,
```

```
    Product_ID: "P6557",
    Branch_ID: "B006",
    Stock_Quantity: 130,
    Restock_Date: "2024-11-01"
  },
  {
    Inventory_ID: 701,
    Product_ID: "P9979",
    Branch_ID: "B001",
    Stock_Quantity: 200,
    Restock_Date: "2024-11-01"
  }
]);
```

Customer

```
db.customer.insertMany([
  {
    Customer_ID: 10001,
    First_Name: "Steffane",
    Last_Name: "Stachini",
    Email: "sstachini0@bloomberg.com",
    Phone_Number: "0733117360",
    City: "Manchester",
    Account_Registered: true
  },
  {
    Customer_ID: 10002,
    First_Name: "Chester",
    Last_Name: "Dicey",
    Email: "cdicey1@dmoz.org",
    Phone_Number: "0737786232",
    City: "Leicester",
    Account_Registered: true
  },
  {
    Customer_ID: 10003,
    First_Name: "Georgeanna",
    Last_Name: "Jagson",
    Email: "gjagson2@facebook.com",
    Phone_Number: "0775162921",
    City: "Belfast",
    Account_Registered: true
  },
  {
    Customer_ID: 10004,
    First_Name: "Inga",
    Last_Name: "Yesichev",
    Email: "iyesichev3@google.de",
    Phone_Number: "0708129262",
    City: "Sheffield",
    Account_Registered: true
```

```
    },
    {
      Customer_ID: 10005,
      First_Name: "Lennard",
      Last_Name: "Snow",
      Email: "lsnow4@ifeng.com",
      Phone_Number: "0722760282",
      City: "Brighton",
      Account_Registered: true
    },
    {
      Customer_ID: 10006,
      First_Name: "Terrye",
      Last_Name: "Caddens",
      Email: "tcaddens5@i2i.jp",
      Phone_Number: "0716755694",
      City: "Nottingham",
      Account_Registered: true
    },
    {
      Customer_ID: 10007,
      First_Name: "Clint",
      Last_Name: "Breache",
      Email: "cbreache6@who.int",
      Phone_Number: "0788318179",
      City: "Bristol",
      Account_Registered: true
    },
    {
      Customer_ID: 10008,
      First_Name: "Jayme",
      Last_Name: "Blunkett",
      Email: "jblunkett7@nifty.com",
      Phone_Number: "0747776381",
      City: "Manchester",
      Account_Registered: true
    },
    {
      Customer_ID: 10009,
      First_Name: "Ophelie",
      Last_Name: "Charlot",
      Email: "ocharlot8@wsj.com",
      Phone_Number: "0725942160",
      City: "Leeds",
      Account_Registered: true
    },
    {
      Customer_ID: 10010,
      First_Name: "Grantley",
      Last_Name: "Mannie",
      Email: "gmannie9@angelfire.com",
      Phone_Number: "0773554997",
      City: "Glasgow",
      Account_Registered: true
```

```
    }
]);
```

Order

```
db.order.insertMany([
  {
    Order_ID: 4567,
    Order_Date: "2024-11-01",
    Order_Total: 827.76,
    Customer_ID: 10001,
    Branch_ID: "B003",
    Product_ID: "P4193",
    Quantity: 3
  },
  {
    Order_ID: 1230,
    Order_Date: "2024-03-14",
    Order_Total: 546.04,
    Customer_ID: 10003,
    Branch_ID: "B001",
    Product_ID: "P5845",
    Quantity: 2
  },
  {
    Order_ID: 7891,
    Order_Date: "2024-05-25",
    Order_Total: 1436.55,
    Customer_ID: 10002,
    Branch_ID: "B002",
    Product_ID: "P7483",
    Quantity: 5
  },
  {
    Order_ID: 6789,
    Order_Date: "2024-07-10",
    Order_Total: 599.04,
    Customer_ID: 10004,
    Branch_ID: "B004",
    Product_ID: "P9191",
    Quantity: 2
  },
  {
    Order_ID: 7892,
    Order_Date: "2024-07-04",
    Order_Total: 594.88,
    Customer_ID: 10005,
    Branch_ID: "B005",
    Product_ID: "P0656",
    Quantity: 3
  },
  {
```

    Order_ID: 8901,
    Order_Date: "2024-08-10",
    Order_Total: 1360.29,
    Customer_ID: 10006,
    Branch_ID: "B004",
    Product_ID: "P6557",
    Quantity: 5
},
{
    Order_ID: 1234,
    Order_Date: "2024-10-14",
    Order_Total: 949.89,
    Customer_ID: 10007,
    Branch_ID: "B004",
    Product_ID: "P9979",
    Quantity: 5
},
{
    Order_ID: 2346,
    Order_Date: "2024-01-19",
    Order_Total: 337.27,
    Customer_ID: 10008,
    Branch_ID: "B003",
    Product_ID: "P3848",
    Quantity: 4
},
{
    Order_ID: 7893,
    Order_Date: "2024-10-17",
    Order_Total: 555.63,
    Customer_ID: 10009,
    Branch_ID: "B003",
    Product_ID: "P1917",
    Quantity: 4
},
{
    Order_ID: 12345,
    Order_Date: "2024-08-20",
    Order_Total: 1360.29,
    Customer_ID: 10010,
    Branch_ID: "B003",
    Product_ID: "P2806",
    Quantity: 5
},
{
    Order_ID: 54321,
    Order_Date: "2024-02-20",
    Order_Total: 921.29,
    Customer_ID: 10001,
    Branch_ID: "B006",
    Product_ID: "P4722",
    Quantity: 6
},
{

```
      Order_ID: 91234,
      Order_Date: "2024-03-20",
      Order_Total: 160.29,
      Customer_ID: 10002,
      Branch_ID: "B005",
      Product_ID: "P6856",
      Quantity: 1
    },
    {
      Order_ID: 89034,
      Order_Date: "2024-04-25",
      Order_Total: 678.86,
      Customer_ID: 10003,
      Branch_ID: "B002",
      Product_ID: "P9659",
      Quantity: 4
    },
    {
      Order_ID: 45075,
      Order_Date: "2024-06-12",
      Order_Total: 762.56,
      Customer_ID: 10004,
      Branch_ID: "B001",
      Product_ID: "P4134",
      Quantity: 5
    },
    {
      Order_ID: 13486,
      Order_Date: "2024-09-03",
      Order_Total: 456.79,
      Customer_ID: 10010,
      Branch_ID: "B006",
      Product_ID: "P2385",
      Quantity: 3
    },
    {
      Order_ID: 234354,
      Order_Date: "2024-12-12",
      Order_Total: 1200.29,
      Customer_ID: 10006,
      Branch_ID: "B006",
      Product_ID: "P6278",
      Quantity: 9
    }
]);
```

Payment

```
db.payment.insertMany([
  {
    Payment_ID: 2001,
    Order_id: 4567,
```

```json
    Amount_Paid: 827.76,
    Payment_Mode: "online",
    Payment_Date: "2024-11-25"
  },
  {
    Payment_ID: 2002,
    Order_id: 1230,
    Amount_Paid: 467.35,
    Payment_Mode: "online",
    Payment_Date: "2024-03-17"
  },
  {
    Payment_ID: 2003,
    Order_id: 7891,
    Amount_Paid: 180.01,
    Payment_Mode: "in store",
    Payment_Date: "2024-06-02"
  },
  {
    Payment_ID: 2004,
    Order_id: 6789,
    Amount_Paid: 599.04,
    Payment_Mode: "in store",
    Payment_Date: "2024-07-26"
  },
  {
    Payment_ID: 2005,
    Order_id: 7892,
    Amount_Paid: 264.44,
    Payment_Mode: "in store",
    Payment_Date: "2024-07-26"
  },
  {
    Payment_ID: 2006,
    Order_id: 8901,
    Amount_Paid: 394.88,
    Payment_Mode: "online",
    Payment_Date: "2024-08-21"
  },
  {
    Payment_ID: 2007,
    Order_id: 6789,
    Amount_Paid: 155.63,
    Payment_Mode: "online",
    Payment_Date: "2024-10-19"
  },
  {
    Payment_ID: 2008,
    Order_id: 1234,
    Amount_Paid: 949.89,
    Payment_Mode: "in store",
    Payment_Date: "2024-10-26"
  },
  {
```

```
  Payment_ID: 2009,
  Order_id: 2346,
  Amount_Paid: 137.27,
  Payment_Mode: "online",
  Payment_Date: "2024-10-30"
},
{
  Payment_ID: 2010,
  Order_id: 7893,
  Amount_Paid: 360.29,
  Payment_Mode: "online",
  Payment_Date: "2024-08-31"
},
{
  Payment_ID: 2011,
  Order_id: 54321,
  Amount_Paid: 921.29,
  Payment_Mode: "online",
  Payment_Date: "2024-02-21"
},
{
  Payment_ID: 2012,
  Order_id: 91234,
  Amount_Paid: 160.29,
  Payment_Mode: "in store",
  Payment_Date: "2024-03-21"
},
{
  Payment_ID: 2013,
  Order_id: 89034,
  Amount_Paid: 678.86,
  Payment_Mode: "online",
  Payment_Date: "2024-04-26"
},
{
  Payment_ID: 2014,
  Order_id: 45075,
  Amount_Paid: 762.56,
  Payment_Mode: "in store",
  Payment_Date: "2024-06-13"
},
{
  Payment_ID: 2015,
  Order_id: 13486,
  Amount_Paid: 456.79,
  Payment_Mode: "online",
  Payment_Date: "2024-09-04"
},
{
  Payment_ID: 2016,
  Order_id: 234354,
  Amount_Paid: 1200.29,
  Payment_Mode: "in store",
  Payment_Date: "2024-12-13"
```

```
  }
]);
```

Delivery

```
db.delivery.insertMany([
  {
    Delivery_ID: 3001,
    Delivery_Address: "Manchester High street",
    Delivery_Mode: "delivery",
    Delivery_Date: "2024-11-25",
    Order_ID: "4567"
  },
  {
    Delivery_ID: 3002,
    Delivery_Address: "Commercial Road",
    Delivery_Mode: "delivery",
    Delivery_Date: "2024-03-18",
    Order_ID: "1230"
  },
  {
    Delivery_ID: 3003,
    Delivery_Address: "High Street -street 2",
    Delivery_Mode: "in store pickup",
    Delivery_Date: "2024-06-02",
    Order_ID: "7891"
  },
  {
    Delivery_ID: 3004,
    Delivery_Address: "Sheffield Street",
    Delivery_Mode: "delivery",
    Delivery_Date: "2024-07-27",
    Order_ID: 6789
  },
  {
    Delivery_ID: 3005,
    Delivery_Address: "Northbrook road street 4",
    Delivery_Mode: "in store pickup",
    Delivery_Date: "2024-07-26",
    Order_ID: 7892
  },
  {
    Delivery_ID: 3006,
    Delivery_Address: "Nottingham Road",
    Delivery_Mode: "delivery",
    Delivery_Date: "2024-08-29",
    Order_ID: 8901
  },
  {
    Delivery_ID: 3007,
    Delivery_Address: "Derby road street 3",
    Delivery_Mode: "in store pickup",
```

```
    Delivery_Date: "2024-10-19",
    Order_ID: "6789"
  },
  {
    Delivery_ID: 3008,
    Delivery_Address: "Bristol Street 4",
    Delivery_Mode: "delivery",
    Delivery_Date: "2024-10-29",
    Order_ID: "1234"
  },
  {
    Delivery_ID: 3009,
    Delivery_Address: "Saint Nicholas street 5",
    Delivery_Mode: "in store pickup",
    Delivery_Date: "2024-10-30",
    Order_ID: "2346"
  },
  {
    Delivery_ID: 3010,
    Delivery_Address: "Leeds Street 3",
    Delivery_Mode: "delivery",
    Delivery_Date: "2024-09-03",
    Order_ID: "7893"
  },
  {
    Delivery_ID: 3011,
    Delivery_Address: "Manchester High Street",
    Delivery_Mode: "delivery",
    Delivery_Date: "2024-02-22",
    Order_ID: 54321
  },
  {
    Delivery_ID: 3012,
    Delivery_Address: "Commercial Road",
    Delivery_Mode: "delivery",
    Delivery_Date: "2024-03-22",
    Order_ID: 91234
  },
  {
    Delivery_ID: 3013,
    Delivery_Address: "High Street - Street 2",
    Delivery_Mode: "in store pickup",
    Delivery_Date: "2024-04-27",
    Order_ID: 89034
  },
  {
    Delivery_ID: 3014,
    Delivery_Address: "Sheffield Street",
    Delivery_Mode: "delivery",
    Delivery_Date: "2024-06-14",
    Order_ID: 45075
  },
  {
    Delivery_ID: 3015,
```

```
    Delivery_Address: "Northbrook Road Street 4",
    Delivery_Mode: "in store pickup",
    Delivery_Date: "2024-09-05",
    Order_ID: 13486
  },
  {
    Delivery_ID: 3016,
    Delivery_Address: "Nottingham Road",
    Delivery_Mode: "delivery",
    Delivery_Date: "2024-12-14",
    Order_ID: 234354
  }
]);
```

Queries

Query 1: Looks for products for a specific season with specific composition and description

```
fmclothing> db.product.aggregate([
...    {
.....      $match: {
.......        $and: [
.......          { Composition: { $regex: "jojoba oil", $options: "i" } },
.......          { Product_Description: { $regex: "faux fur coat", $options: "i" } }
.......        ]
.......      }
.....    },
...    {
.....      $lookup: {
.......        from: "inventory",
.......        localField: "Product_id",
.......        foreignField: "Product_ID",
.......        as: "InventoryDetails"
.......      }
.....    },
...    {
.....      $unwind: {
.......        path: "$InventoryDetails",
.......        preserveNullAndEmptyArrays: true
.......      }
.....    },
...    {
.....      $lookup: {
.......        from: "branch",
.......        localField: "InventoryDetails.Branch_ID",
.......        foreignField: "Branch_id",
.......        as: "BranchDetails"
.......      }
.....    },
...    {
.....      $unwind: {
.......        path: "$BranchDetails",
.......        preserveNullAndEmptyArrays: true
.......      }
.....    },
...    {
.....      $project: {
.......        _id: 0,
.......        Product_id: 1,
.......        Product_Description: 1,
.......        Season: 1,
.......        Composition: 1,
.......        Size: 1,
.......        Price: 1,
.......        "InventoryDetails.Stock_Quantity": 1,
.......        "BranchDetails.Branch_name": 1,
.......        "BranchDetails.Branch_Address": 1
.......      }
.....    }
... ]);
```

Output

```
[
  {
    Product_id: 'P2044',
    Product_Description: 'Chic faux fur coat for cold weather',
    Size: 'XS',
    Composition: 'jojoba oil',
    Price: '£141.37'
  },
  {
    Product_id: 'P5084',
    Product_Description: 'Chic faux fur coat for cold weather',
    Size: 'L',
    Composition: 'jojoba oil',
    Price: '£29.55'
  }
]
```

This query returns products that meet a specific inputted composition and description criteria, showing the inventory for each relevant product and its branch details, if available. If a product is out of stock or lacks branch information, those fields will be null but the product will still appear in the output.

Query 2: Product availability and locations

```
mclothing> db.inventory.aggregate([
.. {
....    $lookup: {
......       from: "product",
......       localField: "Product_ID",
......       foreignField: "Product_id",
......       as: "ProductDetails"
......    }
.... },
.. {
....    $lookup: {
......       from: "branch",
......       localField: "Branch_ID",
......       foreignField: "Branch_id",
......       as: "BranchDetails"
......    }
.... },
.. {
....    $unwind: "$ProductDetails"
.... },
.. {
....    $unwind: "$BranchDetails"
.... },
.. {
....    $project: {
......       _id: 0,
......       "ProductDetails.Product_id": 1,
......       "ProductDetails.Product_Description": 1,
......       "ProductDetails.Size": 1,
......       "ProductDetails.Composition": 1,
......       "BranchDetails.Branch_name": 1,
......       "BranchDetails.Branch_Address": 1,
......       Stock_Quantity: 1
......    }
.... },
.. {
....    $match: {
......       Stock_Quantity: { $gt: 0 }
......    }
.... },
.. {
....    $sort: { "BranchDetails.Branch_name": 1, Stock_Quantity: -1 }
.... }
.. ]);
```

Output

```
[
  {
    Stock_Quantity: 80,
    ProductDetails: {
      Product_id: 'P0656',
      Product_Description: 'Chic faux fur coat for cold weather',
      Size: 'L',
      Composition: 'shea butter'
    },
    BranchDetails: {
      Branch_name: 'Chichester',
      Branch_Address: 'Northbrook road street 4'
    }
  },
  {
    Stock_Quantity: 80,
    ProductDetails: {
      Product_id: 'P0656',
      Product_Description: 'Chic faux fur coat for cold weather',
      Size: 'L',
      Composition: 'shea butter'
    },
    BranchDetails: {
      Branch_name: 'Chichester',
      Branch_Address: 'Northbrook road street 4'
    }
  },
  {
    Stock_Quantity: 120,
    ProductDetails: {
      Product_id: 'P5845',
      Product_Description: 'Classic denim jeans with distressed detailing',
      Size: 'XL',
      Composition: 'sodium chloride'
    },
    BranchDetails: {
      Branch_name: 'Fareham',
      Branch_Address: 'High street - street 2'
    }
  },
  {
    Stock_Quantity: 120,
    ProductDetails: {
      Product_id: 'P5845',
```

This query provides a report on inventory with detailed product information, such as product availability and locations.

Query 3: History of delivery of orders

```
fmclothing> db.delivery.aggregate([
...   {
.....      $lookup: {
.......         from: "order",
.......         localField: "Order_ID",
.......         foreignField: "Order_ID",
.......         as: "OrderDetails"
.......      }
.....   },
...   {
.....      $unwind: "$OrderDetails"
.....   },
...   {
.....      $lookup: {
.......         from: "customer",
.......         localField: "OrderDetails.Customer_ID",
.......         foreignField: "Customer_ID",
.......         as: "CustomerDetails"
.......      }
.....   },
...   {
.....      $unwind: "$CustomerDetails"
.....   },
...   {
.....      $project: {
.......         _id: 0,
.......         Delivery_ID: 1,
.......         Delivery_Address: 1,
.......         Delivery_Mode: 1,
.......         Delivery_Date: 1,
.......         "OrderDetails.Order_ID": 1,
.......         "OrderDetails.Order_Date": 1,
.......         "OrderDetails.Quantity": 1,
.......         "CustomerDetails.First_Name": 1,
.......         "CustomerDetails.Last_Name": 1,
.......         "CustomerDetails.City": 1
.......      }
.....   },
...   {
.....      $sort: { Delivery_Date: -1 }
.....   }
... ]);
```

Output

```
[
  {
    Delivery_ID: 3016,
    Delivery_Address: 'Nottingham Road',
    Delivery_Mode: 'delivery',
    Delivery_Date: '2024-12-14',
    OrderDetails: { Order_ID: 234354, Order_Date: '2024-12-12', Quantity: 9 },
    CustomerDetails: { First_Name: 'Terrye', Last_Name: 'Caddens', City: 'Nottingham' }
  },
  {
    Delivery_ID: 3015,
    Delivery_Address: 'Northbrook Road Street 4',
    Delivery_Mode: 'in store pickup',
    Delivery_Date: '2024-09-05',
    OrderDetails: { Order_ID: 13486, Order_Date: '2024-09-03', Quantity: 3 },
    CustomerDetails: { First_Name: 'Grantley', Last_Name: 'Mannie', City: 'Glasgow' }
  },
  {
    Delivery_ID: 3006,
    Delivery_Address: 'Nottingham Road',
    Delivery_Mode: 'delivery',
    Delivery_Date: '2024-08-29',
    OrderDetails: { Order_ID: 8901, Order_Date: '2024-08-10', Quantity: 5 },
    CustomerDetails: { First_Name: 'Terrye', Last_Name: 'Caddens', City: 'Nottingham' }
  },
  {
    Delivery_ID: 3004,
    Delivery_Address: 'Sheffield Street',
    Delivery_Mode: 'delivery',
    Delivery_Date: '2024-07-27',
    OrderDetails: { Order_ID: 6789, Order_Date: '2024-07-10', Quantity: 2 },
    CustomerDetails: { First_Name: 'Inga', Last_Name: 'Yesichev', City: 'Sheffield' }
  },
  {
    Delivery_ID: 3005,
    Delivery_Address: 'Northbrook road street 4',
    Delivery_Mode: 'in store pickup',
    Delivery_Date: '2024-07-26',
    OrderDetails: { Order_ID: 7892, Order_Date: '2024-07-04', Quantity: 3 },
    CustomerDetails: { First_Name: 'Lennard', Last_Name: 'Snow', City: 'Brighton' }
  },
  {
    Delivery_ID: 3014,
    Delivery_Address: 'Sheffield Street',
```

Query 3 aims to present a comprehensive view of every delivery, including the order and customer details it belonged to, organised by the most recent delivery date.

Query 4: Products purchasing record based on the locations

```
fmclothing> db.order.aggregate([
... {
....     $lookup: {
......         from: "branch",
......         localField: "Branch_ID",
......         foreignField: "Branch_id",
......         as: "BranchDetails"
......     }
.... },
... {
....     $lookup: {
......         from: "product",
......         localField: "Product_ID",
......         foreignField: "Product_id",
......         as: "ProductDetails"
......     }
.... },
... {
....     $unwind: "$BranchDetails"
.... },
... {
....     $unwind: "$ProductDetails"
.... },
... {
....     $group: {
......         _id: "$Branch_ID",
......         Branch_Name: { $first: "$BranchDetails.Branch_name" },
......         Total_Sales: { $sum: "$Order_Total" },
......         Products: { $push: "$ProductDetails.Product_Description" }
......     }
.... },
... {
....     $project: {
......         _id: 0,
......         Branch_Name: 1,
......         Total_Sales: 1,
......         Products: 1
......     }
.... },
... {
....     $sort: { Total_Sales: -1 }
.... }
... ]);
```

Output:

```
[
  {
    Branch_Name: 'Gosport',
    Total_Sales: 3080.95,
    Products: [
      'Sleek leather wallet with RFID protection',
      'Classic denim jeans with distressed detailing',
      'Sporty nylon backpack with multiple compartments',
      'Elegant silk scarf with floral pattern'
    ]
  },
  {
    Branch_Name: 'Havant',
    Total_Sales: 2909.22,
    Products: [
      'Chic faux fur coat for cold weather',
      'Classic denim jeans with distressed detailing',
      'Soft cotton t-shirt with graphic print'
    ]
  },
  {
    Branch_Name: 'Portsmouth',
    Total_Sales: 2578.37,
    Products: [
      'Elegant silk scarf with floral pattern',
      'Quirky enamel pin set for decorating jackets and bags',
      'Cozy knit sweater in a variety of colors'
    ]
  },
  {
    Branch_Name: 'Fareham',
    Total_Sales: 2115.41,
    Products: [
      'Stylish leather handbag with adjustable strap',
      'Cozy knit sweater in a variety of colors'
    ]
  },
  {
    Branch_Name: 'Waterlooville',
    Total_Sales: 1308.6,
    Products: [
      'Classic denim jeans with distressed detailing',
      'Quirky enamel pin set for decorating jackets and bags'
    ]
  },
  {
    Branch_Name: 'Chichester',
    Total_Sales: 755.17,
    Products: [
      'Chic faux fur coat for cold weather',
      'Soft cotton t-shirt with graphic print'
```

Query 4 generates a summary report of sales grouped by branches. It provides an insight into total sales per branch, listing all products associated with orders from each branch. Results are sorted by total sales in descending order, indicating top-performing branches.

Query 5: Monthly income generated per city/location

```
fmclothing> db.order.aggregate([
... {
.....     $lookup: {
.......         from: "branch",
.......         localField: "Branch_ID",
.......         foreignField: "Branch_id",
.......         as: "BranchDetails"
.......     }
.....   },
... {
.....     $unwind: "$BranchDetails"
.....   },
... {
.....     $lookup: {
.......         from: "payment",
.......         localField: "Order_ID",
.......         foreignField: "Order_id",
.......         as: "PaymentDetails"
.......     }
.....   },
... {
.....     $unwind: "$PaymentDetails"
.....   },
... {
.....     $addFields: {
.......         Month: { $month: { $dateFromString: { dateString: "$Order_Date" } } },
.......         Year: { $year: { $dateFromString: { dateString: "$Order_Date" } } }
.......     }
.....   },
... {
.....     $group: {
.......         _id: {
.........             City: "$BranchDetails.Branch_Address",
.........             Month: "$Month",
.........             Year: "$Year"
.........         },
.......         Total_Income: { $sum: "$PaymentDetails.Amount_Paid" }
.......     }
.....   },
... {
.....     $project: {
.......         _id: 0,
.......         City: "$_id.City",
.......         Month: "$_id.Month",
.......         Year: "$_id.Year",
.......         Total_Income: 1
.......     }
.....   },
... {
.....     $sort: { Year: 1, Month: 1, City: 1 }
.....   }
... ]);
```

Output

```
[
  {
    Total_Income: 137.27,
    City: 'Saint Nicholas street 5',
    Month: 1,
    Year: 2024
  },
  {
    Total_Income: 921.29,
    City: 'Market road street 1',
    Month: 2,
    Year: 2024
  },
  {
    Total_Income: 467.35,
    City: 'All saint church street 12',
    Month: 3,
    Year: 2024
  },
  {
    Total_Income: 160.29,
    City: 'Northbrook road street 4',
    Month: 3,
    Year: 2024
  },
  {
    Total_Income: 678.86,
    City: 'High street - street 2',
    Month: 4,
    Year: 2024
  },
  {
    Total_Income: 180.01,
    City: 'High street - street 2',
    Month: 5,
    Year: 2024
  },
  {
    Total_Income: 762.56,
    City: 'All saint church street 12',
    Month: 6,
    Year: 2024
  },
  {
    Total_Income: 754.67,
    City: 'Derby road street 3',
    Month: 7,
    Year: 2024
  },
  {
    Total_Income: 264.44,
```

The final query reports monthly income from orders, grouped by branch city in chronological order. It calculates the total income earned from payments for orders in each city for every month and year.

Report

Working on this project with MongoDB combined learning, problem-solving and teamwork. It was crucial to begin this task by delegating tasks among three members of the team to effectively manage the workload. However, this task did not go without its challenges, we encountered some technical difficulties, adding complexity to what already felt like a demanding task. Nevertheless, this enhanced the learning experience.

From the beginning, two out of three team members struggled with accessing MongoDB, with various technical issues. I was one of those two, facing persistent password issues in logging into MongoDB, because I was away from campus, it was difficult to solve this remotely. The issues in access make it hard to interact directly with MongoDB, which was quite frustrating, but it did teach me how important flexibility is in a project like this, particularly in a teamwork environment. To manage these technical challenges, the team adapted by splitting responsibilities. One team member, who was able to access MongoDB, was responsible for inputting pre-written code. Meanwhile, I and another team member divided our roles between writing table queries and report writing. Such delegation made it easier to proceed with the task despite technical issues.

However, for the team member that accessed MongoDB, they faced a challenge. The product table contained 100 pieces of data, inputting this into MongoDB lead to it frequently crashing. This delayed the completion of the task, which was incredibly frustrating. Although, we did learn to be patient with tools as such, and resilient towards the task ahead.

Despite this, completing this project was extremely rewarding. It emphasised how important teamwork is, especially in addressing problems. Personally, I developed an ability to adapt when direct access to technical tools is limited, finding other aspects to contribute to meaningfully. Additionally, encountering real-world technical challenges with a computer package like MongoDB enhanced my understanding of database management, reinforcing the importance of problem-solving skills in a practical sense.