OUTPUTS

Queries:

1.Retrieve the list of country names that have won a world cup.

```
db.COUNTRY.distinct("Winner")
```

```
> use Soccer_World_Cup_M
< switched to db Soccer_World_Cup_M
> show dbs
< BIGDATA                 144.00 KiB
  Soccer_World_Cup_M       96.00 KiB
  admin                    40.00 KiB
  config                  108.00 KiB
  local                    80.00 KiB
> db.COUNTRY.distinct("Winner")
< [
    'Argentina', 'Brazil',
    'England',   'France',
    'Germany',   'Italy',
    'Spain',     'Uruguay'
  ]
```

2. Retrieve the list of country names that have won a world cup and the
   number of world cup each has won in descending order.

```
db.COUNTRY.aggregate([
3.
4.    {
5.      $match: { Winner: { $ne: null } } // Exclude rows where Winner is null
6.    },
7.    {
8.      $group: {
9.        _id: "$Winner", // Group by the winner (country name)
10.        count: { $sum: 1 } // Count how many times each country appears
11.      }
12.    },
13.    {
14.      $sort: { count: -1 } // Sort by the 'count' field in descending order (most wins first)
15.    }
16. ])
```

```
{
  _id: 'Brazil',
  count: 5
}
{
  _id: 'Germany',
  count: 4
}
{
  _id: 'Italy',
  count: 4
}
{
  _id: 'Uruguay',
  count: 2
}
{
  _id: 'Argentina',
  count: 2
}
{
  _id: 'France',
  count: 1
}
{
  _id: 'England',
  count: 1
}
{
  _id: 'France',
  count: 1
}
{
  _id: 'England',
  count: 1
}
{
  _id: 'Spain',
  count: 1
}
```

3. List the Capital of the countries in increasing order of country population for countries that have population more than 100 million.

```
1.
2.    {
3.      $match: {
4.        population: { $gt: 100 } // Match countries with population greater than 100 million
5.      }
6.    },
7.    {
8.      $sort: { population: 1 } // Sort by population in ascending order (increasing)
9.    },
10.   {
11.     $group: {
12.       _id: { capital: "$capital", population: "$population" }, // Group by capital and population
13.     }
14.   },
15.   {
16.     $project: {
17.       _id: 0,    // Exclude the _id field from the result
18.       capital: "$_id.capital", // Include the capital field
19.       population: "$_id.population" // Include the population field (for reference)
20.     }
21.   }
22. ])
```

```
{
  capital: 'Moscow',
  population: 142.46
}
{
  capital: 'Tokyo',
  population: 127.06
}
{
  capital: 'Abuja',
  population: 173.6
}
{
  capital: 'Brasilia',
  population: 202.4
}
{
  capital: 'Washington D.C.',
  population: 318.9
}
{
  capital: 'Mexico City',
  population: 122.3
}
```

4. List the Name of the stadium which has hosted a match where the number of goals scored by a single team was greater than 4.

```
5. db.STADIUM.aggregate([
6.     {
7.       $match: {
8.         $or: [
9.           { score1: { $gt: 4 } },
10.          { score2: { $gt: 4 } }
11.        ]
12.      }
13.    },
14.    {
15.      $project: {
16.        stadium: 1,
17.        _id: 0
18.      }
19.    },
20.    {
21.      $group: {
22.        _id: "$stadium"
23.      }
24.    }
25. ])
```

```
{
  _id: 'Estadio Mineirao'
}
{
  _id: 'Arena Fonte Nova'
}
```

5. List the names of all the cities which have the name of the Stadium
   starting with "Estadio".

```
1. db.STADIUM.aggregate([
2.     {
3.       $match: {
4.         stadium: { $regex: "^Estadio", $options: "i" }
5.       }
6.     },
7.     {
8.       $project: {
9.         city: 1,
10.        _id: 0
11.      }
12.    },
13.    {
14.      $group: {
15.        _id: "$city"
16.      }
17.    }
18. ])
```

```
{
  _id: 'Rio De Janerio'
}
{
  _id: 'Porto Alegre'
}
{
  _id: 'Natal'
}
{
  _id: 'Fortaleza'
}
{
  _id: 'Belo Horizonte'
}
{
  _id: 'Brasilia'
}
```

6. List all stadiums and the number of matches hosted by each stadium.

```
7. db.STADIUM.aggregate([
8.   {
9.     $group: {
10.      _id: "$stadium",      // Group by the stadium field
11.      matchesHosted: { $sum: 1 } // Count the number of matches hosted by each stadium
12.     }
13.   },
14.   {
15.     $project: {
16.       stadium: "$_id", // Rename _id to stadium for clarity
17.       matchesHosted: 1, // Include the number of matches hosted
18.       _id: 0          // Exclude the _id field
19.     }
20.   }
21. ])
```

```
{
  matchesHosted: 7,
  stadium: 'Estadio do Maracana'
}
{
  matchesHosted: 6,
  stadium: 'Arena de Sao Paulo'
}
{
  matchesHosted: 5,
  stadium: 'Arena Pernamuco'
}
{
  matchesHosted: 4,
  stadium: 'Arena Amazonia'
}
{
  matchesHosted: 5,
  stadium: 'Estadio Beira-Rio'
}
{
  matchesHosted: 4,
  stadium: 'Estadio das Dunas'
}
{
  matchesHosted: 6,
  stadium: 'Estadio Mineirao'
}
{
  matchesHosted: 6,
  stadium: 'Estadio Mineirao'
}
{
  matchesHosted: 7,
  stadium: 'Estadio Nacional'
}
{
  matchesHosted: 4,
  stadium: 'Arena Da Baixada'
}
{
  matchesHosted: 6,
  stadium: 'Estadio Castelao'
}
{
  matchesHosted: 6,
  stadium: 'Arena Fonte Nova'
}
{
  matchesHosted: 4,
  stadium: 'Arena Pantanal'
}
```

7. List the First Name, Last Name and Date of Birth of Players whose heights
   are greater than 198 cms.

```
24. { Height: { $gt: 198 } }, // Filter players with height greater than 198 cm
25. { Player_Fname: 1, Player_Lname: 1, BirthDate: 1, _id: 0 } // Include only first_name, last_name,

    dob, and exclude _id
```

```
{
  Player_Lname: 'FORSTER',
  Player_Fname: 'FRASER',
  BirthDate: '17-03-1988'
}
{
  Player_Lname: 'BUMYOUNG',
  Player_Fname: 'LEE',
  BirthDate: '02-04-1989'
}
```

8. List the Fname, Lname, Position and No of Goals scored by the Captain of a team who has more than 2 Yellow cards or 1 Red card.

```
1.  db.COUNTRY.aggregate([
2.    {
3.      $match: {
4.        isCaptain: true, // Only consider the captain
5.        $or: [
6.          { no_Yellow_cards: { $gt: 2 } }, // More than 2 yellow cards
7.          { no_Red_cards: { $gte: 1 } }    // More than or equal to 1 red card
8.        ]
9.      }
10.   },
11.   {
12.     $project: {
13.       Player_Fname:  1,    // Include first name
14.       Player_Lname: 1,     // Include last name
15.       Position: 1,    // Include position
16.       no_Goals: 1,     // Include goals
17.       _id: 0        // Exclude the _id field
18.     }
19.   }
20. ])
```

```
{
  Player_Lname: 'SILVA',
  Player_Fname: 'THIAGO',
  Position: 'Defender',
  no_Goals: 1
}
{
  Player_Lname: 'VALENCIA',
  Player_Fname: 'ANTONIO',
  Position: 'Midfielder',
  no_Goals: 0
}
```

If greater than 2 yellow or 1 red card.

```
db.COUNTRY.aggregate([
  {
    $match: {
      isCaptain: true,  // Only consider the captain
      $or: [
        { no_Yellow_cards: { $gt: 2 } },  // More than 2 yellow cards
        { no_Red_cards: { $gt: 1 } }      // More than 1 red card
      ]
    }
  },
  {
    $project: {
      Player_Fname: 1,        // Include first name
      Player_Lname: 1,        // Include last name
      Position: 1,     // Include position
      no_Goals: 1,         // Include goals
      _id: 0              // Exclude the _id field
    }
  }
])
{
  Player_Lname: 'SILVA',
  Player_Fname: 'THIAGO',
  Position: 'Defender',
  no_Goals: 1
}
```