Answers:-

1) db.users.countDocuments()
2) db.users.find({role:"admin"})
3) db.users.find({username:"Karamchandani",role:"customer"})
4) db.users.find({username:"Sumanth Rao"})
5) db.users.find({firstName:/R/})
6) db.users.find({skills:"Python"})
7) db.users.find({skills:{"$all":["Python","Java"]}})
8) db.users.find({"$or":[{firstName:"Aryan"},{lastName:"Gupta"}]})
9) db.collection.find({skills:{"$in":["Python"],"$nin":["Java"]}})
10) db.users.find({lastName:"Sharma",role:"customer"})
11) db.collection.find({skills:{$size:3}})
12) db.users.find({firstName:/S/,role:"admin"})
13) db.users.find({skills:"Java",role:{"$ne":"admin"}})
14) db.users.find({role:{$exists:false}})
15) db.users.find({"skills.3":{$exists:true}})
16) db.users.find({role:"customer","$or":[{skills:{$exists:false}}]})
17) db.users.find({useremail:/@regexsoftware.com$/})
18) db.users.find({useremail:{"$not":/@gmail.com/}})
19) db.users.find({username:/Singh$/})
20) db.users.find({role:"admin",skills:"Java"})
21) {firstName:"Ananya",role:"customer"}
22) {role:"admin","skills.0":{$exists:true}}
23) {username:/^R/,role:"admin"}
24) {lastName:/Patel$/,role:"customer"}
25) {lastName:{"$ne":[/Patel$/]},role:"customer"}
26) {skills:"Python",role:"admin"}
27) {role:"customer",lastName:{"$not":/Gupta/}}
28) {role:"admin",useremail:/@regexsoftware.com$/}
29) {role:"customer",skills:"React"}
30) {role:"customer",skills:"SQL"}
31) {role:"admin","skills.2":{$exists:true}}
32) {role:"customer",skills:{"$in":["Java","C++"]}}
33) {role:"admin",useremail:{"$not":/@gmail.com/}}

```
34)   {role:"admin",skills:"Java",skills:{"$ne":"Javascript"}}
35)   [{$group:{
 _id:"null",
  averageAge:{$avg:"$age"}
}
},
 {
 $project:{
   _id:0
 }
   }
]
36)[{$match:{ gender:"Female",
 skills:"Python",
  city:"Jaipur"
}
 },
 {$count:"no of Females"}
]
37)  [{$match: {
age:{$gt:26}
}},
 {$count:"no of users"}]

38)[{$match: {
city:{$in:["New delhi","Mumbai"]}
}},
 {$count:"no of users"}]
39)[{$group:{
 _id:"$lastName",
  countthenumberofusers:{$sum:1}
} },
 {
  $project:{
   lastName:"$_id",
```

```
        countthenumberofusers:1
    }
 }]
40)[{$group:{
  _id:"$city",
  countthenumberofusers:{$sum:1}
} },
 {
   $project:{
     lastName:"$_id",
     countthenumberofusers:1
    }
 }]
41)[{$match: {
  city:"New Delhi",
} },
 {$count:"no of users"}
 ]
42)[{$match: {
  gender:"Female",
  city:"Jaipur"
} },
 {$count:"no of users"}
 ]
43)[{$match: {
  gender:"Male",
  city:"New Delhi",
  skills:"Java"
        }
},
 {$count:"no of Male"}
 ]
44)   [{$match: {
gender:"Male",
  age:{$gt:24},
```

```
       city:"Hyderabad",
       skills:{$in:["Python","C++"]}
            }
    },
    {$count:"no of Male"}
    ]
45)[{$match: {
    gender:"Female",
    age:{$gt:24},
    city:"Goa",
    skills:{$in:["Python","C++"]}
            }
    },
    {$count:"no of Female"}
    ]
```

12th July 12, 2024

```
1)[
 {$group:
  {
    _id:"$role",
    avgSal:{$avg:"$salary"}
  }
  }
 ]
2)[
 {$group:
  {
    _id:"$city",
    Totalusers:{$sum:1}
  }
  }
 ]
3)[
 {$group:
  {
    _id:"$gender",
    Averageage:{$avg:"$age"}
  }
  }
 ]
4)[
 {$group:
  {
    _id:{role:"$role",city:"$city"},
    Averagesalary:{$avg:"$salary"}
  }
  }
  ]
```

```
5)[
  {$group:
    {
      _id:{gender:"$gender",city:"$city"},
      Maxsalary:{$max:"$salary"}
    }
    }
  ]
6)[

  {
    $unwind:"$skills"
  },
  {$group:
    {
      _id:"$skills",
      counttheusers:{$sum:1}
    }
  }
   ]
7)[
  {$group:
    {
      _id:"$role",
      MinAge:{$min:"$age"}
    }
  }
   ]
```

```
8) [
 {$group:
  {
   _id:{city:"$city",gender:"$gender"},
   AverageSalary:{$avg:"$salary"}
  }
 }
  ]
9)[
 {$group:
  {
   _id:"$role",
    users:{$addToSet:"$city"}
  }
 }
  ]
  10)[

   {$group:
    {
     _id:"$age",
    counttheusers:{$sum:1}


    }
   }
    ]
```

```
11)[{
$addFields:{
 numberofSkills:{$size:"$skills"}
}
},
{$group:
 {
  _id:"$city",
  averageSkills:{$avg:"$numberofSkills"}
  }
 }
  ]

12)[
 {
  $group: {
   _id:"$role",
    highestsalary:{$max:"$salary"}
   }
 }
]
13)[
 {
  $group: {
   _id:"$gender",
    totalusers:{$sum:1}
   }
 }
]
```

```
14)[
 {
  $group: {
   _id:"$city",
   averageAge:{$avg:"$age"}
  }
 }
]
15)[
 {
  $group: {
   _id:{city:"$city",gender:"$gender"},
   averageSal:{$avg:"$salary"}
  }
 }
]
16)[
 {$unwind:"$skills"},
 {
  $group: {
   _id:"$skills",
   totalusers:{$sum:1}
  }
 }
]
17)[
 {
  $group: {
   _id:"$age",
   maxSalary:{$max:"$salary"}
  }
 }
]
```

```
18)[{$match: {
   "skills>2":{$exists:false}
 }
},
 {
   $group: {
    _id:"$role",
   countusers:{$sum:1}
   }
 }
]
19)[
 {$addFields: {
   numberofskills:{$size:"$skills"}
 }
 },
 {
   $group: {
    _id:{gender:"$gender",city:"$city"},
   averageskills:{$avg:"$numberofskills"}
   }
 }
]
20)[
 {
   $group: {
    _id:"$role",
   averageSal:{$avg:"$salary"}
   }
 }
]
```

```
21)[
 {
   $group: {
     _id:{role:"$role",city:"$city"},
   countusers:{$sum:1}
   }
 }
]
22)[
 {
   $group: {
     _id:{role:"$role",gender:"$gender"},
     totalsalary:{$sum:"$salary"}
   }
   }
 ]
23)[
 {
   $match: {
     salary:{$gt:1000000}
   }
 },
 {
   $group: {
     _id:"$age",
     counttheusers:{$sum:1}
   }
   },
 ]
```

```
24)[
 {$unwind:"$skills"},
 {
  $group: {
   _id:"$skills",
    averageSal:{$avg:"$salary"}
   }
   },
 ]
25)[
 {
  $group: {
   _id:{role:"$role",city:"$city"},
    averageAge:{$avg:"$age"}
  }
   },
 ]
26)[
 {$match: {
  skills:"Java"
 }
 },
 {
  $group: {
   _id:"$gender",
   count:{$sum:1}
  }
   },
 ]
```

```
27)[
 {$addFields: {
   skills:{$size:"$skills"}
 }
 },
 {
  $group: {
   _id:"$city",
   maxSkill:{$max:"$skills"}
  }
  }
 ]
28)[
 {$match: {
   skills:"Python"
 }
 },
 {
  $group: {
   _id:"$role",
   countusers:{$sum:1}
  }
  }
 ]
```

```
29)[
 {$match: {
  "skills>2":{$exists:false}
 }
 },
 {
  $group: {
   _id:{gender:"$gender",city:"$city"},
   avgSal:{$avg:"$salary"}
  }
  }
 ]
30)[
 {$addFields: {
  skills:{$size:"$skills"}
 }
 },
 {
  $group: {
   _id:"$age",
   avgskills:{$avg:"$skills"}
  }
  }
 ]
31)[
 {$match: {
  role:"customer",
  city:"Mumbai"
 }
 },
 {
  $group: {
   _id:"$role",
   totalsalary:{$sum:"$salary"}
  }}]
```

```
32)[
 {$match: {
   role:"admin"
 }
 },
 {
  $group: {
   _id:"$city",
   Maxsalary:{$max:"$salary"}
  }
 }
 ]
33)[
 {$match: {
   salary:{$gt:500000}
 }
 },
 {
  $group: {
   _id:"$city",
   totalusers:{$sum:1}
  }
 }
 ]
34)[
 {$unwind:"$skills"},
 {
  $group: {
   _id:"$skills",
   averageAge:{$avg:"$age"}
  }
 }
 ]
```

```
35)[
  {$match: {
    salary:{lt: 700000}

  }},
  {
    $group: {
      _id:"$role",
      averageskills:{$avg:{$size:"$skills"}
            }
    }
  }
]
36)[{
  $match: {
    skills:"Python"
  }
},
 {$group: {
  _id:{gender:"$gender",city:"$city"},
  averageSal:{$avg:"$salary"}
}}]
37)[{
  $match: {
    role:"admin"
  }
},
 {$group: {
  _id:"$age",
  countusers:{$sum:1}
}}]
```

```
38)[{
  $match: {
    skills:"C++"
  }
},
 {$group: {
  _id:{role:"$role",city:"$city"},
   countusers:{$sum:1}
 }}]
39)
```

```
40)[{$unwind:"$skills"},
 {$group: {
_id:"$skills",
  maxAge:{$max:"$age"}
 }}]
```

```
41).[
  {
    $match: {
      $expr: { $gt: [{ $size: "$skills" }, 1] }
    }
  },
  {
    $group: {
      _id: { role: "$role", city: "$city" },
      count: { $sum: 1 }
    }
  }
]

42)[
 {$match:{
 salary:{$lt:500000}
}
},
 {$group: {
_id:{gender:"$gender",city:"$city"},
  numberofusers:{$sum:1}
 }}]
43)[
 {$match:{
 role:"customer"
}
},
 {$group: {
_id:"$age",
  avgSal:{$avg:"$salary"}
 }}]
```

```
44)[
 {$match:{
 skills:"Kotlin"
 }
 },
 {$group: {
 _id:"$role",
  avgSal:{$avg:"$salary"}
 }}]
 45)[
 {$match:{
 role:"admin"
 }
 },
 {$group: {
 _id:"$city",
  totalusers:{$sum:1}
 }}]
46)[
  {
    $match: {
       skills: { $all: ["Java", "Python"] }
    }
  },
  {
    $group: {
       _id: "$gender",
       count: { $sum: 1 }
    }
  }
]
```

```
47)[
  {
    $match: {
      role: "customer"
    }
  },
  {
    $group: {
      _id: "$age",
      count: { $sum: 1 }
    }
  }
]
48)[
  {
    $match: {
      skills: "DBMS"
    }
  },
  {
    $group: {
      _id: { role: "$role", city: "$city" },
      count: { $sum: 1 }
    }
  }
]
```

```
49)[{
      $match: {
         "skills<3":{ $exists:false}
      }
   },
   {
      $group: {
         _id: "$gender",
         count: {$sum:1}
      }
   }
]
50)[
      {
      $match: {
         salary: { $gt: 1000000 }
      }
   },
   {
      $group: {
         _id: "$city",
         avgSkills: { $avg: { $size: "$skills" } }
      }
   }
]
51)[
       {
      $match: {
         role: "admin"
      }
   },
   {
      $group: {
         _id: "$age",
         maxSalary: { $max: "$salary" } }}]
```

```
52)[
    {
      $match: {
        skills: "JavaScript"
      }
    },
    {
      $group: {
        _id: { role: "$role", city: "$city" },
        totalSalary: { $sum: "$salary" }
      }
    }
]
53)[
    {
      $match: {
        role: "customer"
      }
    },
    {
      $group: {
        _id: "$gender",
        avgSalary: { $avg: "$salary" }
      }
    }
]
```

```
54)[
    {
      $match: {
        skills: "React"
      }
    },
    {
      $group: {
        _id: "$city",
        count: { $sum: 1 }
      }
    }
  ]
55)[
  {
    $match: {
      skills: "SQL"
    }
  },
  {
    $group: {
      _id: "$age",
      avgSalary: { $avg: "$salary" }
    }
  }
]
```

```
56)[
  {
      $match: {
          skills: "Django"
      }
  },
  {
      $group: {
          _id: "$role",
          count: { $sum: 1 }
      }
  }
]
57)[
  {
      $group: {
          _id: "$gender",
          maxSkills: { $max: { $size: "$skills" } }
      }
  }
]
58)[
  {
      $match: {
          skills: "Node.js"
      }
  },
  {
      $group: {
          _id: "$city",
          count: { $sum: 1 }
      }
  }
]
```

```
59)[
  {
      $match: {
        skills: { $all: ["HTML", "CSS"] }
      }
  },
  {
      $group: {
        _id: "$age",
        count: { $sum: 1 }
      }
  }
]
60)[
  {
      $match: {
        salary: { $gt: 1000000 }
      }
  },
  {
      $group: {
        _id: {
          role: "$role",
          gender: "$gender"
        },
        avgSkills: { $avg: { $size: "$skills" } }
      }
  }
]
```