DATASETS:
1. **Sports and Recreation Clubs**
2. **Multi-Use Community Centres**
3. **Accessible Parking Spaces**

PREFIXES:
```
PREFIX csv: <http://example.org/csv/>
PREFIX geo: <http://www.w3.org/2003/01/geo/wgs84_pos#>
PREFIX xsd: <http://www.w3.org/2001/XMLSchema#>
PREFIX math:<http://www.w3.org/2005/xpath-functions/math#>
PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
PREFIX cs: <http://purl.org/vocab/changeset/schema#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
```

1. **Which Sports and Recreation Clubs & Multi-Use Community Centres have meeting rooms to use?**

```
SELECT ?subject ?name
WHERE {
  ?subject csv:meetingrooms "Yes".
  ?subject csv:name ?name
}
```

2. **What are the counts of Sports and Recreation Clubs & Multi-Use Community Centres were created by Community and ESRI (The Economic and Social Research Institute)?**

```
SELECT ?creator (xsd:string(COUNT(?name)) AS ?count)
WHERE {
  ?subject csv:creator ?creator.
  ?subject csv:name ?name.
}GROUP BY ?creator
```

3. **What are names of Sports and Recreation Clubs & Multi-Use Community Centres present in Dublin 24?**

```
SELECT ?name ?add
WHERE {
  ?subject csv:address ?add.
  ?subject csv:name ?name.
  FILTER regex(?add, "DUBLIN 12", "i")
}
```

4. **What are count of SDCC (South Dublin City Council) owned Sports and Recreation Clubs & Multi-Use Community Centres?**

```
PREFIX csv: <http://example.org/csv/>
SELECT ?subject ?name
WHERE {
  ?subject csv:sdccowned "Yes".
  ?subject csv:name ?name.
```

}

5. Which Sports and Recreation Clubs & Multi-Use Community Centres have outdoor facilities and a coffee dock?

```
SELECT ?subject ?name
WHERE {
  ?subject csv:coffeedock "Yes".
  ?subject csv:name ?name
}
```

6. What are the parking areas available near a particular Multi-Use Community Centre? (within 2km sorted by the distance).

```
SELECT ?name ?dist
WHERE {
  ?subject csv:x ?x.
  ?subject csv:y ?y.
  ?subject rdf:type csv:ParkingCoordinate.
  ?parkingrecord csv:Coordinate ?subject.
  ?parkingrecord csv:location ?name.
  ?parkingrecord csv:spacetype ?type.
  {
    SELECT ?selectedx ?selectedy
    WHERE {
      ?sub geo:lat ?selectedx.
      ?sub geo:long ?selectedy.
      ?sub csv:name "GREENHILLS Community Centre".
    }
  }
# To get the distance between two coordinates in metres
# ref: https://www.movable-type.co.uk/scripts/latlong.html
  BIND ((xsd:decimal(?selectedx) - xsd:decimal(?x)) * 0.0174533 AS ?phi)
  BIND ((xsd:decimal(?selectedy) - xsd:decimal(?y)) * 0.0174533 AS ?lambda)
  BIND ((xsd:decimal(?x)) * 0.0174533 AS ?lat1radians)
  BIND ((xsd:decimal(?selectedx)) * 0.0174533 AS ?lat2radians)
  BIND(math:sin(?phi / xsd:decimal(2)) * math:sin(?phi / xsd:decimal(2)) + math:cos(?lat1radians) *
math:cos(?lat2radians) * math:sin(?lambda / xsd:decimal(2)) * math:sin(?lambda / xsd:decimal(2)) AS
?a)
  BIND(xsd:decimal(2) * math:atan2(math:sqrt(?a),math:sqrt(1-?a)) AS ?c)
  BIND(xsd:decimal(6371000) * xsd:decimal(?c) AS ?distance)
  BIND(xsd:string(?distance) AS ?dist)
  FILTER(?distance < xsd:decimal(2000))
}ORDER BY ?dist
```

7. What are the different kinds of Space-type available for parking near a particular Sports and Recreation Club and what are the counts of each of them? (within 2km)

```
SELECT  ?type (xsd:string(COUNT(?type)) AS ?count)
WHERE {
  ?subject csv:x ?x.
```

```
    ?subject csv:y ?y.
    ?subject rdf:type csv:ParkingCoordinate.
    ?parkingrecord csv:Coordinate ?subject.
    ?parkingrecord csv:location ?name.
    ?parkingrecord csv:spacetype ?type.
    ?parkingrecord csv:noofspaces ?spaces.
    {
      SELECT ?selectedx ?selectedy
      WHERE {
        ?sub geo:lat ?selectedx.
        ?sub geo:long ?selectedy.
        ?sub csv:name "GREENHILLS Community Centre".
      }
    }
  # To get the distance between two coordinates in metres
  # ref: https://www.movable-type.co.uk/scripts/latlong.html
    BIND ((xsd:decimal(?selectedx) - xsd:decimal(?x)) * 0.0174533 AS ?phi)
    BIND ((xsd:decimal(?selectedy) - xsd:decimal(?y)) * 0.0174533 AS ?lambda)
    BIND ((xsd:decimal(?x)) * 0.0174533 AS ?lat1radians)
    BIND ((xsd:decimal(?selectedx)) * 0.0174533 AS ?lat2radians)
    BIND(math:sin(?phi / xsd:decimal(2)) * math:sin(?phi / xsd:decimal(2)) + math:cos(?lat1radians) *
math:cos(?lat2radians) * math:sin(?lambda / xsd:decimal(2)) * math:sin(?lambda / xsd:decimal(2)) AS
?a)
    BIND(xsd:decimal(2) * math:atan2(math:sqrt(?a),math:sqrt(1-?a)) AS ?c)
    BIND(xsd:decimal(6371000) * xsd:decimal(?c) AS ?distance)
    BIND(xsd:string(?distance) AS ?dist)
    FILTER(?distance < xsd:decimal(2000))
  }GROUPBY ?type
```

8. What are the Sports and Recreation Clubs & Multi-Use Community Centres that have missing website information?

```
SELECT ?name ?site
WHERE {
  ?subject rdf:type csv:SportsContactInfo.
  ?sportsrecord csv:SportsContactInfo ?subject.
  ?sportsrecord csv:name ?name.
  FILTER(NOT EXISTS { ?subject csv:website ?site })
}
```

9. What are disability accessible Sports and Recreation Clubs & Multi-Use Community Centres in Dublin 16?

```
SELECT ?subject ?add ?sportsrecord ?name
WHERE {
  ?subject csv:address ?add.
  FILTER regex(?add, "DUBLIN 16", "i")
  ?sportsrecord csv:SportsContactInfo ?subject.
  ?sportsrecord csv:name ?name.
  ?sportsrecord csv:disabilityaccess "YES"
```

}

10. **Which is the nearest parking area available near a particular Sports and Recreation Club and what are the number of parking spaces in it?**

```
SELECT ?name ?dist ?numberofspaces
WHERE {
 ?subject csv:x ?x.
 ?subject csv:y ?y.
 ?subject rdf:type csv:ParkingCoordinate.
 ?parkingrecord csv:Coordinate ?subject.
 ?parkingrecord csv:location ?name.
 ?parkingrecord csv:spacetype ?type.
 ?parkingrecord csv:noofspaces ?numberofspaces
 {
  SELECT ?selectedx ?selectedy
  WHERE {
   ?sub geo:lat ?selectedx.
   ?sub geo:long ?selectedy.
   ?sub csv:name "GREENHILLS Community Centre".
  }
 }
# To get the distance between two coordinates in metres
# ref: https://www.movable-type.co.uk/scripts/latlong.html
 BIND ((xsd:decimal(?selectedx) - xsd:decimal(?x)) * 0.0174533 AS ?phi)
 BIND ((xsd:decimal(?selectedy) - xsd:decimal(?y)) * 0.0174533 AS ?lambda)
 BIND ((xsd:decimal(?x)) * 0.0174533 AS ?lat1radians)
 BIND ((xsd:decimal(?selectedx)) * 0.0174533 AS ?lat2radians)
 BIND(math:sin(?phi / xsd:decimal(2)) * math:sin(?phi / xsd:decimal(2)) + math:cos(?lat1radians) *
math:cos(?lat2radians) * math:sin(?lambda / xsd:decimal(2)) * math:sin(?lambda / xsd:decimal(2)) AS
?a)
 BIND(xsd:decimal(2) * math:atan2(math:sqrt(?a),math:sqrt(1-?a)) AS ?c)
 BIND(xsd:decimal(6371000) * xsd:decimal(?c) AS ?distance)
 BIND(xsd:string(?distance) AS ?dist)
 FILTER(?distance < xsd:decimal(2000))
}ORDER BY ?dist LIMIT 1 OFFSET 1
```