 **GIS EXERCISES**  
**Exercise 3: Spatial Query**

**Objective:** Identify and select all parks located within suburban areas.

**Example Scenario:** As part of a city's efforts to enhance recreational opportunities in suburban areas, you are tasked with identifying parks located within these neighbourhoods. By performing a spatial query, you can select parks that are easily accessible to suburban residents and assess their suitability for potential improvements or additions.

**Steps:**

**Load Shapefiles:**

Open ArcGIS and load the following shapefiles into your map project:

Parks

Suburbs

**Perform Spatial Query:**

Access the "Selection" menu in ArcGIS.

Choose the "Select by Location" tool.

Set the target layer to "Parks" and the source layer to "Suburbs".

Choose the spatial relationship "Are within the source layer feature" to select parks located within suburban areas.

Run the spatial query.

**Review Selection:**

Review the selected parks to ensure that only those within suburban areas are highlighted.

**Visualize Selection:**

Temporarily hide other layers except for the parks layer to visualize the selected parks within suburban areas.

**Export Selection (Optional):**

If necessary, export the selected parks as a new shapefile for further analysis or reporting purposes.

**Interpret Results:**

Analyse the selected parks to understand their distribution within suburban areas.

Consider factors such as park size, amenities, and accessibility for urban planning or recreational purposes.

**Generate Reports:**

Document your findings, including the number of parks selected within suburban areas and any notable characteristics of these parks.

**Skills Learned:**

Application of spatial query techniques to select features based on their spatial relationship with other features.

Understanding of how spatial queries can be used to extract relevant information from GIS datasets.

Interpretation of spatial analysis results for urban planning and recreational purposes.

***Note:*** *Encourage students to experiment with different spatial relationships and query options (e.g., "Intersect," "Contain," "Are completely within") to understand their effects on the selection process. Discuss the importance of spatial queries in various GIS applications, such as site selection, environmental analysis, and demographic studies.*