|  |  |  |  |
| --- | --- | --- | --- |
| Case Study | Cypher Query Number | Cypher Query | Query Description |
| 1 | 1 | MATCH (n:Project)-[re:RESEARCHED\_BY]-(g:GARD)  WHERE re.semantic\_similarity > 0.6  MATCH (n)--(p:PrincipalInvestigator)  OPTIONAL MATCH (n)-[:UNDER\_CORE]-(c:CoreProject)-[:PUBLISHED]-(e:Publication)  WITH p.org\_state AS org\_state, SUM(n.total\_cost) AS total\_cost1,       COUNT(DISTINCT e) AS num\_papers  RETURN org\_state, total\_cost1, num\_papers; | This query aims to analyze project funding and publications across U.S. states. It specifically focuses on projects with a semantic similarity score above 0.8 to ensure more reliable results. |
| 1 | 2 | MATCH (n:Project)-[re:RESEARCHED\_BY]-(g:GARD)  WHERE re.semantic\_similarity > 0.6  MATCH (n)--(p:PrincipalInvestigator)  OPTIONAL MATCH (n)-[:UNDER\_CORE]-(c:CoreProject)-[:PUBLISHED]-(e:Publication)  WITH p.org\_name AS org\_name, SUM(n.total\_cost) AS total\_cost1,            COUNT(DISTINCT e) AS num\_papers  RETURN org\_name, total\_cost1, num\_papers; | This query aims to analyze project funding and publications across U.S. institutions. It specifically focuses on projects with a semantic similarity score above 0.8 to ensure more reliable results. |
| 2 | 3 | MATCH (n:Project)-[r:RESEARCHED\_BY]-(g:GARD)  MATCH (n)--(c:CoreProject)--(p:Publication)  WHERE g.GardId='GARD:0008732'  and r.semantic\_similarity > 0.6  RETURN n | This query effectively explores projects related to the disease identified by 'GARD:0008732' (Hemophilia B), focusing on their funding, and associated UMLS concepts. It specifically focuses on projects with a semantic similarity score above 0.8 to ensure more reliable results. By annotations, it provides insights into the types of research being conducted, their funding distribution, and the diversity of biomedical concepts involved in the study of the disease. |