

Graph database with Neo4j

CYPHER SCRIPT FOR POULATING GRAPH DATABASE

```
CREATE (UNAM:University{id:1,name:'National Autonomously University of Mexico'})
CREATE (ITAM:University{id:2,name:'Tecnological Autonomous Institute of Mexico'})
CREATE (UAM:University{id:3,name:'Autonomously Metropolitan University '})
CREATE (IPN:University{id:4,name:'National Polytechnical Institute '})
CREATE (UVM:University{id:5,name:'University del Valle of Mexico'})
CREATE (ITESM:University{id:6,name:'Tecnological Institute of High Studies of Monterrey'})
CREATE (HWU:University{id:7,name:'Heriot Watt University',country:'Scotland'})
CREATE (UUE:University{id:8,name:'European University',country:'Europe'})
CREATE (UUSA:University{id:8,name:'American University',country:'United States of North America'})

CREATE (FI:School{id:1,name:'School of Engineering'})
CREATE (FCA:School{id:2,name:'School of Administration'})
CREATE (FC:School{id:3,name:'School of Sciences'})
CREATE (FESAC:School{id:4,name:'School of High Studies Acatlan'})
CREATE (FESAR:School{id:5,name:'School of High Studies Aragon'})
CREATE (FESCU:School{id:6,name:'School of High Studies Cuautitlan'})
CREATE (II:Institute{id:7,name:'Institute of Engineering'})
CREATE (ICN:Institute{id:8,name:'Institute of Sciences Nucleares'})
CREATE (IIMAS:Institute{id:9,name:'Institute of Research on Applied Mathematics and in Systems'})

CREATE (ICAT:Institute{id:10,name:'Institute of Sciences Applied y Tecnologia '})
CREATE (IM:Institute{id:11,name:'Institute of Mathematics'})
CREATE (ENESMO:School{id:12,name:'National School of High Studies Morelia'})
CREATE (DGTIC:UNAM_Entity{id:13,name:'General Directorate of Computation and Technology of Information and Communication'})

CREATE (TAXA:TECAX{id:1,name:'Technical Academic',type:'Auxiliar',category:'A'})
CREATE (TAXB:TECAX{id:2,name:'Technical Academic',type:'Auxiliar',category:'B'})
CREATE (TAXC:TECAX{id:3,name:'Technical Academic',type:'Auxiliar',category:'C'})
```

CREATE (TATA:TECAT{id:1,name:'Technical Academic',type:'Titular',category:'A'})
CREATE (TATB:TECAT{id:2,name:'Technical Academic',type:'Titular',category:'B'})
CREATE (TATC:TECAT{id:3,name:'Technical Academic',type:'Titular',category:'C'})
CREATE (TAAA:TECAA{id:1,name:'Technical Academic',type:'Associate',category:'A'})
CREATE (TAAB:TECAA{id:2,name:'Technical Academic',type:'Associate',category:'B'})
CREATE (TAAC:TECAA{id:3,name:'Technical Academic',type:'Associate',category:'C'})

CREATE (PCTA:PCT{id:1,name:'Professor of Carrera Titular A'})
CREATE (PCTB:PCT{id:2,name:'Professor of Carrera Titular B'})
CREATE (PCTC:PCT{id:3,name:'Professor of Carrera Titular C'})
CREATE (PCAA:PCA{id:1,name:'Professor of Carrera Associate A'})
CREATE (PCAB:PCA{id:2,name:'Professor of Carrera Associate B'})
CREATE (PCAC:PCA{id:3,name:'Professor of Carrera Associate C'})
CREATE (ICTA:ICT{id:1,name:'Researcher of Carrera Titular A'})
CREATE (ICTB:ICT{id:2,name:'Researcher of Carrera Titular B'})
CREATE (ICTC:ICT{id:3,name:'Researcher of Carrera Titular C'})
CREATE (ICAA:ICT{id:1,name:'Researcher of Carrera Associate A'})
CREATE (ICAB:ICT{id:2,name:'Researcher of Carrera Associate B'})
CREATE (ICAC:ICT{id:3,name:'Researcher of Carrera Associate C'})

CREATE (CCTC:KnowledgeField{id:1,name:'Theory of la Computacion'})
CREATE (CCIS:KnowledgeField{id:2,name:'Software Engineering'})
CREATE (CCBD:KnowledgeField{id:3,name:'Databases'})
CREATE (CCRS:KnowledgeField{id:4,name:'Network and Security'})
CREATE (CCIA:KnowledgeField{id:5,name:'Artificial Intelligence '})
CREATE (CCSAV:KnowledgeField{id:6,name:'Virtual Environments'})
CREATE (CCCC:KnowledgeField{id:7,name:'Scientific computing'})
CREATE (CCCD:KnowledgeField{id:8,name:'Data Sciences'})
CREATE (IC:GradoAcademic{id:1,name:'Computing enginner'})
CREATE (IE:GradoAcademic{id:1,name:'Electric/Electronic engineer'})
CREATE (IME:GradoAcademic{id:1,name:'Mechanical engineer'})
CREATE (MAT:GradoAcademic{id:1,name:'Bsc. Mathematics'})
CREATE (FIS:GradoAcademic{id:1,name:'Bsc. Physics'})
CREATE (LCC:GradoAcademic{id:2,name:'Bsc. Computer Sciences'})
CREATE (ACT:GradoAcademic{id:3,name:'Actuarial'})
CREATE (DI:GradoAcademic{id:4,name:'Doctor in Engineering'})

CREATE (MI:GradoAcademic{id:5,name:'Master in Engineering'})

CREATE (MC:GradoAcademic{id:6,name:'Master in Sciences'})

CREATE (DC:GradoAcademic{id:7,name:'Doctor in Sciences'})

CREATE (STIMULATE:STIMULUS{id:1,name:'STIMULATE Academics'})

CREATE (SNIC:SNI{id:1,name:'National System of Researchers', acronym:'SNI-C',
level:'Candidato'})

CREATE (SNI1:SNI{id:2,name:'National System of Researchers', acronym:'SNI-I', level:'I'})

CREATE (SNI2:SNI{id:3,name:'National System of Researchers', acronym:'SNI-II', level:'II'})

CREATE (SNI3:SNI{id:4,name:'National System of Researchers', acronym:'SNI-III', level:'III'})

CREATE (PRIDEA:PRIDE{id:1,name:'Academic Funding Program',acronym:'PRIDE', level:'A'})

CREATE (PRIDEB:PRIDE{id:2,name:'Academic Funding Program',acronym:'PRIDE', level:'B'})

CREATE (PRIDEC:PRIDE{id:3,name:'Academic Funding Program',acronym:'PRIDE', level:'C'})

CREATE (PRIDED:PRIDE{id:4,name:'Academic Funding Program',acronym:'PRIDE', level:'D'})

CREATE (ESTIMPAIPA:Paipa{id:5,acronym:'PAIPA'})

CREATE (ESTIMCATCON:Conacyt{id:6,name:'Catedra CONACYT'})

CREATE (ACVEAR:Academic {id:1,name:'Veronica
Esther',apPat:'Arriola',apMat:'Rios',gender:'female'})

CREATE (ACPBS:Academic{id:2,name:'Pablo',apPat:'Barrera',apMat:'Sanchez',gender:'male'})

CREATE (ACHACC:Academic{id:3,name:'Humberto
Andres',apPat:'Carrillo',apMat:'Calvet',gender:'male'})

CREATE (ACJDFP:Academic{id:4,name:'Jose
David',apPat:'Flores',apMat:'Peñaloza',gender:'male'})

CREATE (ACJJGC:Academic{id:5,name:'Jose of
Jesus',apPat:'Galaviz',apMat:'Casas',gender:'male'})

CREATE (ACSNGH:Academic{id:6,name:'Sofia
Natalia',apPat:'Galicia',apMat:'Haro',gender:'male'})

CREATE (ACMPA:Academic{id:7,name:'Maria del
Pilar',apPat:'Angeles',apMat:'.',gender:'female',teloficina:'56233500 x
1376',corrofi:'pilarang@cvicom.unam.mx'})

CREATE (ACFGU:Academic{id:7,name:'Francisco',apPat:'Garcia',apMat:'Ugalde',gender:'male'})

CREATE(ACBER:Academic{id:7,name:'Boris',apPat:'Escalante',apMat:'Ramirez',gender:'male',teloficina:'56
233500 x 1375',corrofi:'boris@cvicom.unam.mx'})

// -- lineas of research of ICAT

```
CREATE (LIAI:ResearchLine{id:1,name:'Analysis of Images'})
CREATE (LIV:ResearchLine{id:1,name:'Visualization'})
CREATE (LIB:ResearchLine{id:1,name:'Bioinformatics'})
CREATE (LIIBFC:ResearchLine{id:2,name:'Imagenology, Physics, Computing'})
CREATE (LIUIDT:ResearchLine{id:3,name:'Technological Research and Development'})
CREATE (LIMSP:ResearchLine{id:4,name:'Modeling'})
CREATE (LISI:ResearchLine{id:5,name:'Intelligent Systems'})
CREATE (LIESIE:ResearchLine{id:6,name:'Interactive education'})
CREATE (LITE:ResearchLine{id:7,name:'Telematics for education'})
CREATE (LIAV:ResearchLine{id:8,name:'Acoustics'})
```

// -- GRUPOS AcademicS of research ICAT --

```
CREATE (GAV:AcademicGroup{id:1,name:'Acoustics',type:'research'})
CREATE (GAIVB:AcademicGroup{id:2,name:'Analysis of Images, Visualization and
Bioinformatics',type:'research'})
CREATE (GCSC:AcademicGroup{id:3,name:'Cibernetica y sistemas complejos',type:'research'})
CREATE (GCN:AcademicGroup{id:4,name:'Neural Computing',type:'research'})
CREATE (GESIE:AcademicGroup{id:5,name:'Education spaces',type:'research'})
CREATE (GIBFC:AcademicGroup{id:6,name:'Imagenology',type:'research'})
CREATE (GSI:AcademicGroup{id:7,name:'Inteligent Systems',type:'research'})
CREATE (GUIDT:AcademicGroup{id:8,name:'Technological Development',type:'research'})
```

// -- GRUPOS AcademicS of F Engineering--

```
CREATE (GBD:AcademicGroup{id:7,name:'group Databases',type:'research'})
CREATE (GAI:AcademicGroup{id:15,name:'Group Image Analysis',type:'research'})
```

// -- GRUPOS AcademicS of FES ACATLAN --

```
CREATE (GRAIN:AcademicGroup{id:9,name:'Intelligent Reasoning',type:'research'})
```

// --lineas of research fes acatlan

```
CREATE (LIIA:ResearchLine{id:10,name:'Artificial Intelligence'})
CREATE (LISBC:ResearchLine{id:11,name:'Knowledge Systems'})
CREATE (LITRC:ResearchLine{id:12,name:'Qualitative reasoning and representation'})
CREATE (LILD:ResearchLine{id:13,name:'Descriptive Logic'})
CREATE (PYVIZEXPERT:Project{id:1,name:'Expert System for the evaluation of visual
```

pathologies'}})

// --ProjectS AcademicS FES ARAGON

CREATE (PYPREP:Project{id:2,name:'Audit of software to the systems of the Preliminary Electoral Results Program'})

CREATE (PYELGA:Project{id:3,name:'Elga Internet'})

// --ProjectS AcademicS FES CUAUTITLAN

CREATE (PYPIAPI1616CPL:Project{id:4,name:'Services of Advanced Computing for the research on Sciences and Engineering'})

CREATE (PYPAPIITIN113316:Project{id:5,name:'Algebraic Structures Related to Quantum Groups and their Applications'})

CREATE (PYPIAPI1634:Project{id:6,name:'Algebraic Structures and their Applications'})

CREATE (PYPAPIME5322117:Project{id:7,name:'Mathematical Modeling and Computational Simulation and Optimization of Chemical Processes'})

CREATE (PYAUCCCCTCA:Project{id:8,name:'Ultrasonic applications and cryogels of meat cuts for the control of the size of crystals of water'})

CREATE (PYPAPIITIN111628:Project{id:7,name:'Phenomenology of quarks and leptons in extended models'})

CREATE (PYPIAPI1528:Project{id:9,name:'Computational Applications in Modern Physics'})

CREATE (PYPAPIITIN218118:Project{id:10,name:'Complexes of copper (II) and Zinc (II) with anti-inflammatory drugs'})

CREATE (PYSIIFCU:Project{id:11,name:'Integral System of Information of the FES Cuautitlan'})

// -- lineas of research of ENES MORELIA --

CREATE (LICB:ResearchLine{id:14,name:'Biological Sciences'})

CREATE (:ResearchLine{id:15,name:'Data Sciences'})

CREATE (LICT:ResearchLine{id:16,name:'Earth Sciences'})

CREATE (LIAA:ResearchLine{id:17,name:'Machine learning'})

// -- GRUPOS AcademicS of enes morelia --

CREATE (GLAAD:AcademicGroup{id:10,name:'Advance Analysis Laboratory',type:'laboratory'})

// -- lineas of research of Direccion General of Computo y of Tecnologias of Informacion y Comunicacion

CREATE (CONACYT:Financiamiento{id:1,name:'Consejo National of Ciencia y Tecnologia',acronym:'CONACYT'})

```
CREATE (PAPIIT:Financiamiento{id:2,name:'Programa of Apoyo a Projects of Investigación e Innovación Tecnológica',acronym:'PAPIIT'})
```

```
CREATE (PAPIME:Financiamiento{id:3,name:'Programa of Apoyo a Projects para la Innovación y Mejoramiento of la Enseñanza',acronym:'PAPIME'})
```

```
// Projects PARA pilar angeles
```

```
CREATE (PYIN114413:Project{id:11,name:'Sistema Evaluador of Calidad of data',type:'research',endingyear:2017})
```

```
CREATE (PY2018:Project{id:12,name:'Analysis of opinion on twitter about the use of psychostimulant drugs in 10 states of the United States',type:'difusion',endingyear:2018})
```

```
CREATE (PY2010:Project{id:13,name:'Criteria of Quality and Priorities by role of user and type of System of Information for making decisions regarding extensional inconsistencies in environments of Multiple Databases',type:'research',endingyear:2010})
```

```
CREATE (PY2011:Project{id:14,name:'Calidad of data dentro of la Integración of Información Empresarial',type:'research',endingyear:2011})
```

```
CREATE (PY20112:Project{id:15,name:'The use of Data Cleansing in mobile devices',type:'research',endingyear:2011})
```

```
// ---- LIBROS PILAR ANGELES ---
```

```
CREATE (lib1:Libro{ISBN:'978-3-8484-6665-8',name:'Cuerpo of conocimiento y guía of evaluación',editorial:'Academica Espanola',isbn:'978-3-8484-6665-8',anio:2018})
```

```
// ---- ARTICULOS PILAR ANGELES ---
```

```
CREATE (ARTMPA1:Articulo{ISBN:'1',vol:'3',num:'3',edit:'Elsevier',titulo:'Towards a Representation of Enterprise Architecture based on Zachman Framework through OMG Standards',nameevento:'30th International Conference on Software Engineering and Knowledge Engineering SEKE 2018',alcance:'interNational',abstract:'nodisponible',numpags:11,rutapdf:'nohay',palabraClave1:'OMG',palabraClave2:'duplication',palabraClave3:'record linkage',anio:2018})
```

```
CREATE (ARTMPA2:Articulo{ISBN:2,vol:'1',num:'1',edit:'Elsevier',titulo:'Mapeo entre la ISO/IEC 29110-5-1-2 y el MAAGTICSI dirigido a Organizaciones Pequeñas Desarrolladoras of Software en Mexico',nameevento:'XXI Ibero American Conference on Software Engineering CibSE 2018',alcance:'interNational',abstract:'no disponible',numpags:11,rutapdf:'no disponible',palabraClave1:'MAGTICSI',palabraClave2:'PYME',palabraClave3:'Software',anio:2018})
```

```
CREATE (ARTMPA3:Articulo{ISBN:'978-1-4673-6901-
```

5',vol:3,num:2,edit:'Elsevier',titulo:'Analysis of String encoding functions during of duplication process',nameevento:'IEEE International Conference on Informatics Electronic and Vision, ICIEV 2015',alcance:'interNational',abstract:'no disponible',numpags:12,rutapdf:'http://ieeexplore.ieee.org/xpl/login.jsp?tp=&arnumber=7333979&url=http%3A%2F%2Fieeexplore.ieee.org%2Fxppls%2Fabs_all.jsp%3Farnumber%3D7333979',palabraClave1:'data matching',palabraClave2:'of duplication',palabraClave3:'record linkage',anio:2015))

CREATE (ARTMPA4:Articulo{ISBN:'978-1-4673-6901-5',edit:'IEEE',titulo:'Comparison of a Modified Spanish phonetic Soundex and Phonex coding functions during data matching process',nameevento:'IEEE International Conference on Informatics, Electronic and Vision, ICIEV 2015',alcance:'interNational',abstract:'no disponible',numpags:5,rutapdf:'http://ieeexplore.ieee.org/xpl/login.jsp?tp=&arnumber=7334028&url=http%3A%2F%2Fieeexplore.ieee.org%2Fiel7%2F7322532%2F7333967%2F07334028.pdf%3Farnumber%3D7334028',palabraClave1:'data matching',palabraClave2:'of duplication',palabraClave3:'soundex',anio:2015})

CREATE (ARTMPA5:Articulo{ISSN:'0268-4012',vol:33,num:6,edit:'Elsevier',titulo:'V+H: Hybrid architecture for DSS and OLTP',nameevento:'International Journal of Information Management',alcance:'interNational',abstract:'no disponible',numpags:7,rutapdf:'http://www.sciencedirect.com/science/article/pii/S0268401213000972 doi:10.1016/j.ijinfomgt.2013.08.006',palabraClave1:'Decision Support Systems',palabraClave2:'DSS',palabraClave3:'record linkage',anio:2013}))

CREATE (ARTMPA6:Articulo{ISSN:'1942-2628',vol:6,num:4,edit:'IARIA',titulo:'Multi Agent Distributed Data Mining by Ontologies',nameevento:'International Journal on Advances in Software',alcance:'interNational',abstract:'no disponible',numpags:11,rutapdf:'http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.643.3753&rep=rep1&type=pdf#page=96',palabraClave1:'data matching',palabraClave2:'deduplication',palabraClave3:'record linkage',anio:2013}))

CREATE (ARTMPA7:Articulo{ISBN:'1942-262',vol:1,num:2,edit:'IARIA',titulo:'Subjective Assessment of Data Quality considering their Interdependencies and Relevance according to the Type of Information Systems',nameevento:'International Journal on Advances in Software',alcance:'interNational',abstract:'checarvalor',numpags:11,rutapdf:'https://www.thinkmind.org/index.php?view=article&articleid=soft_v5_n34_2012_20',palabraClave1:'data matching',palabraClave2:'de-duplication',palabraClave3:'record linkage',anio:2015}))

CREATE (ARTMPA8:Articulo{ISSN:'1751-0465',vol:2,num:3,edit:'Inderscience Enterprise Ltd',titulo:'Managing Data Quality of integrated data with Known Provenance',nameevento:'International Journal of Information

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Quality',alcance:'interNational',abstract:'no
disponible',numpags:19,rutapdf:'http://www.inderscienceonline.com/doi/abs/10.1504/IJIQ.2011.040
671',palabraClave1:'data provenance',palabraClave2:'data lineage',palabraClave3:'data
quality',anio:2011})

CREATE (ARTMPA10:Articulo{ISSN:'1405-5546',vol:13,num:3,edit:'Computación y
Sistemas',titulo:'Assessing data quality of integrated data by quality aggregation of its
ancestors',nameevento:'Indice of Revistas Cientificas y Tecnologicas del
CONACYT',alcance:'interNational',abstract:'checar
valor',numpags:10,rutapdf:'http://www.scielo.org.mx/pdf/cys/v13n3/v13n3a7.pdf',palabraClave1:'da
ta provenance',palabraClave2:'data lineage',palabraClave3:'data quality',anio:2010})

// CREACION of ARTICULOS, SUS CAMPOS NECESARIOS:

CREATE(ARTMPA12:Articulo{ISBN:4,vol:"",num:"",edit:"",titulo:"",nameevento:"",alcance:'interNational'abstra
ct:"",numpags:"",rutapdf:"",palabraClave1:'data matching',palabraClave2:'deduplication',palabraClave3:'record
linkage',anio:2015})

// CAPTURA of RELACIONES

// estructura of la unam

// Las Schooles, Schools, Institutes y entidades que BELONG A LA UNAM

CREATE (FI)-[:BELONG]->(UNAM)
CREATE (FCA)-[:BELONG]->(UNAM)
CREATE (FC)-[:BELONG]->(UNAM)
CREATE (FESAC)-[:BELONG]->(UNAM)
CREATE (FESAR)-[:BELONG]->(UNAM)
CREATE (FESCU)-[:BELONG]->(UNAM)
CREATE (II)-[:BELONG]->(UNAM)
CREATE (ICN)-[:BELONG]->(UNAM)
CREATE (IIMAS)-[:BELONG]->(UNAM)
CREATE (ICAT)-[:BELONG]->(UNAM)
CREATE (IM)-[:BELONG]->(UNAM)
CREATE (ENESMO)-[:BELONG]->(UNAM)
CREATE (DGTIC)-[:BELONG]->(UNAM)
CREATE(PRIDEA)<-[:ES_STIMULUS]-(STIMULATE)
CREATE(PRIDEB)<-[:ES_STIMULUS]-(STIMULATE)
CREATE(PRIDEC)<-[:ES_STIMULUS]-(STIMULATE)
CREATE(PRIDED)<-[:ES_STIMULUS]-(STIMULATE)

```



```
CREATE(SNIC)<-[:ES_STIMULUS]-(STIMULATE)
CREATE(SNI1)<-[:ES_STIMULUS]-(STIMULATE)
CREATE(SNI2)<-[:ES_STIMULUS]-(STIMULATE)
CREATE(SNI3)<-[:ES_STIMULUS]-(STIMULATE)
```

```
// PILAR ANGELES LICENCIATURA, MAESTRIA Y DOCTORADO
```

```
CREATE(ACMPA)<-[:BSCSTUDY]-(FI)-[:BSCSTUDY]->(ING)-[:BSCSTUDY]->(IC)
CREATE(ACMPA)<-[:MASTERSTUDY]-(IIMAS)-[:MASTERSTUDY]->(MC)
CREATE(ACMPA)<-[:PHDSTUDY]-(HWU)-[:PHDSTUDY]->(CC)
```

```
// BORIS LICENCIATURA, MAESTRIA Y DOCTORADO
```

```
CREATE(ACBER)<-[:BSCSTUDY]-(FI)-[:BSCSTUDY]->(ING)-[:BSCSTUDY]->(IE)
CREATE(ACBER)<-[:MASTERSTUDY]-(FI)-[:MASTERSTUDY]->(MI)
CREATE(ACBER)<-[:PHDSTUDY]-(UUE)-[:PHDSTUDY]->(DI)
```

```
// TRABAJA EN LA UNAM
```

```
CREATE(ACMPA)-[:WORKS_UNI]->(UNAM)
CREATE(ACBER)-[:WORKS_UNI]->(UNAM)
```

```
// ADSCRITA A FI
```

```
CREATE(ACMPA)-[:WORKSFOR]->(FI)
CREATE(ACBER)-[:WORKSFOR]->(FI)
```

```
// ES Professor
```

```
Create(ACMPA)-[:JOBPOSITION]->(PCTA)
CREATE(ACBER)-[:JOBPOSITION]->(PCTC)
```

```
// HAS STIMULATE SNI Y PRIDE
```

```
CREATE(ACMPA)<-[:HAS_SNI{fechafin:2015}]->(SNIC)
CREATE(ACMPA)<-[:HAS_PRIDE{fechafin:2020}]->(PRIDEC)
CREATE(ACBER)<-[:HAS_SNI{fechafin:2018}]->(SNI2)
CREATE(ACMPA)<-[:HAS_PRIDE{fechafin:2020}]->(PRIDED)
```

```
// HAS LINEA of research
```

```
CREATE(ACMPA)-[:LINEA_INVESTIGA]->(LICD)
CREATE(ACMPA)-[:BELONG_GRUPO]->(GBD)
```

CREATE(ACBER)-[:LINEA_INVESTIGA]->(LIAI)

CREATE(ACBER)-[:BELONG_GRUPO]->(GAI)

//EL GRUPOS AcademicS Y CAMPOS of CONOCIMIENTO

// GRPO of BASE of data BELONG A LINEA of INVEST Y LA LINEA of INV BELONG

CAMPO CONOCIMIENTOS

CREATE(GBD)-[:LINEA_INVESTIGA]->(LICD)

CREATE(LICD)-[:BELONG_CAMPO_CONO]->(CCBD)

CREATE(GAI)-[:LINEA_INVESTIGA]->(LIAI)

CREATE(LIAI)-[:BELONG_CAMPO_CONO]->(CCSAI)

CREATE(ACMPA)-[:HAS_Project]->(PYPAPIITIN114413)

CREATE(ACFGU)-[:HAS_Project]->(PYPAPIITIN114413)

CREATE(PYPAPIITIN114413)-[:BELONG_GRUPO]->(GBD)

CREATE(PY2018)-[:BELONG_GRUPO]->(GBD)

CREATE(PYPAPIITIN114413)-[:FINANCIADO_POR{fechafin:2016}]->(PAPIIT)

CREATE(PY2018)-[:FINANCIADO_POR{fechafin:2018}]->(CONACYT)

// --- GRUPO Academic CON PILAR ANGELES

CREATE(ACMPA)<-[:ESTA_GRUPO_INV]-(GBD)

CREATE(ACFGU)<-[:ESTA_GRUPO_INV]-(GBD)

CREATE(PY2018)-[:PRODUCES]->(ARTMPA1)

CREATE(ACMPA)-[:WRITE_ARTI{type:'conferencia'}]->(ARTMPA1)

CREATE(ACBER)-[:WRITE_ARTI{type:'conferencia'}]->(ARTMPA1)

CREATE(PY2018)-[:PRODUCES]->(ARTMPA2)

CREATE(ACMPA)-[:WRITE_ARTI{type:'conferencia'}]->(ARTMPA2)

CREATE(ACBER)-[:WRITE_ARTI{type:'conferencia'}]->(ARTMPA2)

CREATE(PYIN114413)-[:PRODUCES]->(ARTMPA3)

CREATE(ACMPA)-[:WRITE_ARTI{type:'conferencia'}]->(ARTMPA3)

CREATE(ACFGU)-[:WRITE_ARTI{type:'conferencia'}]->(ARTMPA3)

CREATE(PYIN114413)-[:PRODUCES]->(ARTMPA4)

CREATE(ACMPA)-[:WRITE_ARTI{type:'conferencia'}]->(ARTMPA4)

CREATE(ACFGU)-[:WRITE_ARTI{type:'conferencia'}]->(ARTMPA4)

QUERIES:

- i. Given an area of knowledge, such as “Machine Learning” obtain the academic groups, full name and department where s(he) work of the members of the academic group.

```
MATCH (ga)-[r2:ESTA_GRUPO_INV]->(ac)-[r1:LINEA_INVESTIGA]->(li) WHERE li.name='Data Sciences' RETURN ac.name AS Researcher, ga.name AS AcademicGroup
```

- ii. Which is the School with the largest number of journal articles that have been published in the last year?

```
MATCH (arti)<-[r1:ESCRIBIO_ARTI]-(ac)-[r2:ADSCRIPCION]->(en) WHERE r1.tipo='conferencia' AND arti.anio=2018 RETURN en.nameAS entidad,arti.titulo AS nomArt, arti.anio AS year ORDER BY nomArt,year DESC
```

- iii. What are the keywords most frequently used in the conference articles?

```
MATCH (aca)-[r:WRITE_ARTI]->(arti) WHERE r.tipo='conferencia' return arti.palabraClave1,arti.palabraClave2,arti.palabraClave3,arti.palabraClave4
```

- iv. Which academics and from which School have published articles? Ordered per year

```
MATCH (arti)<-[r1:WRITE_ARTI]-(ac)-[r2:WORKFOR]->(en) where r1.tipo='conferencia' RETURN ac.name AS academico,arti.titulo AS articulo,r1.tipo AS tipo,arti.anio AS anio order by arti.anio DESC
```