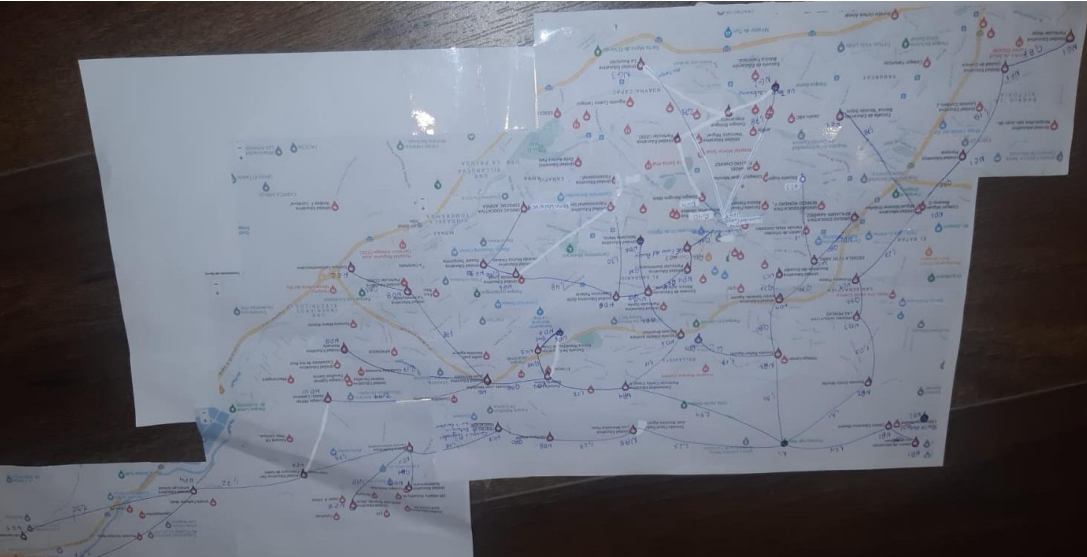
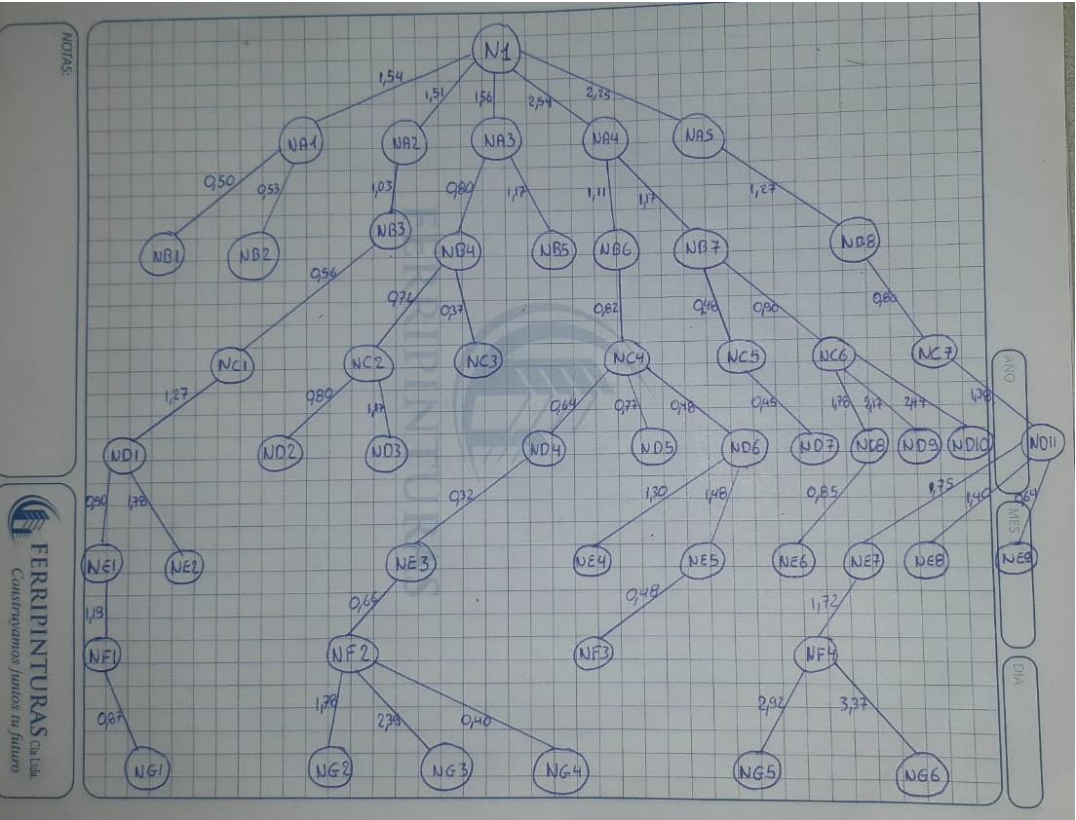


ROBERTO QUINDE

- MAPA



- NODOS



- NODOS ESTABLECIDOS

NODO	DESCRIPCION	DISTANCIA(km)	NODO PADRE
n1	PUMAYUNGA BAJO	0	
nA1	CENTRO EDUCATIVO MADRID	1,54	n1
nA2	ESCUELA EMILIO MURILLO	1,51	n1

nA3	ESCUELA RAFAEL AGUILAR3	1,56	n1
nA4	COMUNIDAD EDUCATIVA PARTICULAR CARLOS CRESPI II	2,54	n1
nA5	UNIDAD EDUCATIVA LUIS MONSALVE POZO	2,25	n1
nB1	CENTRO EDUCATIVO INICIAL EINSTEIN	0,5	nA1
nB2	UNIDAD EDUCATIVA SANTA ANA	0,53	nA1
nB3	UNIDAD EDUCATIVA LAS PENCAS	1,03	nA2
nB4	UNIDAD EDUCATIVA VICTOR GERARDO AGUILAR	0,8	nA3
nB5	UNIVERSIDAD CATOLICA DE CUENCA	1,17	nA3
nB6	ESCUELA BRUMEL	1,11	nA4
nB7	ESCUELA LUIS ROBERTO BRAVO	1,17	nA4
nB8	ESCUELA HERMANO MIGUEL	1,27	nA5
nC1	PRIMEROS PASOS	0,56	nB3
nC2	ESCUELA 12 DE ABRIL	0,72	nB4
nC3	UNIDAD EDUCATIVA REPUBLICA DEL ECUADOR	0,37	nB4
nC4	ESCUELA DE EDUCACION BASICA JULIO MARIA MATOVELLE	0,82	nB6
nC5	ESCUELA DE EDUCACION BASICA REPUBLICA DE CHILE	0,48	nB7
nC6	ESCUELA JUAN MONTALVO	0,9	nB7
nC7	CAMPUS POSGRADOS ESTANCIA LUIS CORDERO	0,8	nB8
nD1	COLEGIO MIGUEL MORENO	1,27	nC1
nD2	UNIDAD EDUCATIVA BENJAMIN RAMIREZ	0,8	nC2
nD3	ESCUELA EUGENIO ESPEJO	1,17	nC2
nD4	UNIDAD EDUCATIVA PARTICULAR DOMINICANA	0,64	nC4
nD5	UNIDAD EDUCATIVA SALESIANA MARIA AUXILIADORA	0,77	nC4
nD6	UNIDAD EDUCATIVA ZOILA ESPERANZA PALACIOS	0,48	nC4
nD7	UNIVERSIDAD POLITECNICA SALESIANA	0,45	nC5
nD8	UNIDAD EDUCATIVA LA INMACULADA	1,78	nC6
nD9	UNIDAD EDUCATIVA KENNEDY	2,17	nC6
nD10	COLEGIO MILITAR ABDON CALDERON	2,44	nC6
nD11	UNIDAD EDUCATIVA BUENA ESPERANZA	1,38	nC7
nE1	UNIDAD EDUCATIVA PORVENIR	0,9	nD1
nE2	UNIDAD DE EDUCACION BASICA NICOLAS SOJOS	1,78	nD1
nE3	CENTRO EDUCATIVO LICEO DEL AZUAY	0,32	nD4
nE4	UNIDAD EDUCATIVA SOR TERESA VALSE	1,3	nD6
nE5	UNIDAD EDUCATIVA HERLINDA TORAL	1,48	nD6
nE6	COLEGIO LATINOAMERICANO	0,85	nD8
nE7	UNIDAD EDUCATIVA SAN FRANCISCO DE SALES	1,75	nD11
nE8	UNIDAD EDUCATIVA ROSA DE JESUS CORDERO	1,4	nD11
nE9	UNIDAD EDUCATIVA SUDAMERICANO	0,64	nD11
nF1	UNIDAD EDUCATIVA CIUDAD DE CUENCA	1,19	nE1
nF2	UNIVERSIDAD DE CUENCA	0,66	nE3
nF3	UNIDAD EDUCATIVA GASPAR SANGURIMA	0,48	nE5
nF4	UNIDAD EDUCATIVA AMERICAN SCHOOL	1,72	nE7
nG1	UNIDAD EDUCATIVA PARTICULAR BORJA	0,87	nF1
nG2	UNIDAD EDUCATIVA TECNICO SALESIANO	1,78	nF2
nG3	UNIDAD EDUCATIVA LA ASUNCION	2,39	nF2

nG4	COLEGIO BENIGNO MALO	0,4	nF2
nG5	CENTRO EDUCATIVO INICIAL GARABATOS	2,92	nF4
nG6	COLEGIO ALEMAN	3,37	nF4

- SCRIPT PARA CREAR NODOS Y RELACIONES

CREATE

```
(n1:Nodo {titulo: 'PUMAYUNGA BAJO'}),
(nA1:Nodo {titulo: 'CENTRO EDUCATIVO MADRID'}),
(nA2:Nodo {titulo: 'ESCUELA EMILIO MURILLO'}),
(nA3:Nodo {titulo: 'ESCUELA RAFAEL AGUILAR3'}),
(nA4:Nodo {titulo: 'COMUNIDAD EDUCATIVA PARTICULAR CARLOS CRESPI I'}),
(nA5:Nodo {titulo: 'UNIDAD EDUCATIVA LUIS MONSALVE POZO'}),
(nB1:Nodo {titulo: 'CENTRO EDUCATIVO INICIAL EINSTEIN'}),
(nB2:Nodo {titulo: 'UNIDAD EDUCATIVA SANTA ANA'}),
(nB3:Nodo {titulo: 'UNIDAD EDUCATIVA LAS PENCAS'}),
(nB4:Nodo {titulo: 'UNIDAD EDUCATIVA VICTOR GERARDO AGUILAR'}),
(nB5:Nodo {titulo: 'UNIVERSIDAD CATOLICA DE CUENCA'}),
(nB6:Nodo {titulo: 'ESCUELA BRUMEL'}),
(nB7:Nodo {titulo: 'ESCUELA LUIS ROBERTO BRAVO'}),
(nB8:Nodo {titulo: 'ESCUELA HERMANO MIGUEL'}),
(nC1:Nodo {titulo: 'PRIMEROS PASOS'}),
(nC2:Nodo {titulo: 'ESCUELA 12 DE ABRIL'}),
(nC3:Nodo {titulo: 'UNIDAD EDUCATIVA REPUBLICA DEL ECUADOR'}),
(nC4:Nodo {titulo: 'ESCUELA DE EDUCACION BASICA JULIO MARIA MATOVE LLE'}),
(nC5:Nodo {titulo: 'ESCUELA DE EDUCACION BASICA REPUBLICA DE CHILE'}),
(nC6:Nodo {titulo: 'ESCUELA JUAN MONTALVO'}),
(nC7:Nodo {titulo: 'CAMPUS POSGRADOS ESTANCIA LUIS CORDERO'}),
(nD1:Nodo {titulo: 'COLEGIO MIGUEL MORENO'}),
(nD2:Nodo {titulo: 'UNIDAD EDUCATIVA BENJAMIN RAMIREZ'}),
(nD3:Nodo {titulo: 'ESCUELA EUGENIO ESPEJO'}),
(nD4:Nodo {titulo: 'UNIDAD EDUCATIVA PARTICULAR DOMINICANA'}),
(nD5:Nodo {titulo: 'UNIDAD EDUCATIVA SALESIANA MARIA AUXILIADORA'}),
(nD6:Nodo {titulo: 'UNIDAD EDUCATIVA ZOILA ESPERANZA PALACIOS'}),
(nD7:Nodo {titulo: 'UNIVERSIDAD POLITECNICA SALESIANA'}),
(nD8:Nodo {titulo: 'UNIDAD EDUCATIVA LA INMACULADA'}),
(nD9:Nodo {titulo: 'UNIDAD EDUCATIVA KENNEDY'}),
(nD10:Nodo {titulo: 'COLEGIO MILITAR ABDON CALDERON'}),
(nD11:Nodo {titulo: 'UNIDAD EDUCATIVA BUENA ESPERANZA'}),
(nE1:Nodo {titulo: 'UNIDAD EDUCATIVA PORVENIR'}),
(nE2:Nodo {titulo: 'UNIDAD DE EDUCACION BASICA NICOLAS SOJOS'}),
(nE3:Nodo {titulo: 'CENTRO EDUCATIVO LICEO DEL AZUAY'}),
(nE4:Nodo {titulo: 'UNIDAD EDUCATIVA SOR TERESA VALSE'}),
(nE5:Nodo {titulo: 'UNIDAD EDUCATIVA HERLINDA TORAL'}),
```

(nE6:Nodo {titulo: 'COLEGIO LATINOAMERICANO'}),
 (nE7:Nodo {titulo: 'UNIDAD EDUCATIVA SAN FRANCISCO DE SALES'}),
 (nE8:Nodo {titulo: 'UNIDAD EDUCATIVA ROSA DE JESUS CORDERO'}),
 (nE9:Nodo {titulo: 'UNIDAD EDUCATIVA SUDAMERICANO'}),
 (nF1:Nodo {titulo: 'UNIDAD EDUCATIVA CIUDAD DE CUENCA'}),
 (nF2:Nodo {titulo: 'UNIVERSIDAD DE CUENCA'}),
 (nF3:Nodo {titulo: 'UNIDAD EDUCATIVA GASPAR SANGURIMA'}),
 (nF4:Nodo {titulo: 'UNIDAD EDUCATIVA AMERICAN SCHOOL'}),
 (nG1:Nodo {titulo: 'UNIDAD EDUCATIVA PARTICULAR BORJA'}),
 (nG2:Nodo {titulo: 'UNIDAD EDUCATIVA TECNICO SALESIANO'}),
 (nG3:Nodo {titulo: 'UNIDAD EDUCATIVA LA ASUNCION'}),
 (nG4:Nodo {titulo: 'COLEGIO BENIGNO MALO'}),
 (nG5:Nodo {titulo: 'CENTRO EDUCATIVO INICIAL GARABATOS'}),
 (nG6:Nodo {titulo: 'COLEGIO ALEMAN'}),
 (n1)-[:Conexion {costo: 1.54}]->(nA1),
 (n1)-[:Conexion {costo: 1.51}]->(nA2),
 (n1)-[:Conexion {costo: 1.56}]->(nA3),
 (n1)-[:Conexion {costo: 2.54}]->(nA4),
 (n1)-[:Conexion {costo: 2.25}]->(nA5),
 (nA1)-[:Conexion {costo: 0.5}]->(nB1),
 (nA1)-[:Conexion {costo: 0.53}]->(nB2),
 (nA2)-[:Conexion {costo: 1.03}]->(nB3),
 (nA3)-[:Conexion {costo: 0.8}]->(nB4),
 (nA3)-[:Conexion {costo: 1.17}]->(nB5),
 (nA4)-[:Conexion {costo: 1.11}]->(nB6),
 (nA4)-[:Conexion {costo: 1.17}]->(nB7),
 (nA5)-[:Conexion {costo: 1.27}]->(nB8),
 (nB3)-[:Conexion {costo: 0.56}]->(nC1),
 (nB4)-[:Conexion {costo: 0.72}]->(nC2),
 (nB4)-[:Conexion {costo: 0.37}]->(nC3),
 (nB6)-[:Conexion {costo: 0.82}]->(nC4),
 (nB7)-[:Conexion {costo: 0.48}]->(nC5),
 (nB7)-[:Conexion {costo: 0.9}]->(nC6),
 (nB8)-[:Conexion {costo: 0.8}]->(nC7),
 (nC1)-[:Conexion {costo: 1.27}]->(nD1),
 (nC2)-[:Conexion {costo: 0.8}]->(nD2),
 (nC2)-[:Conexion {costo: 1.17}]->(nD3),
 (nC4)-[:Conexion {costo: 0.64}]->(nD4),
 (nC4)-[:Conexion {costo: 0.77}]->(nD5),
 (nC4)-[:Conexion {costo: 0.48}]->(nD6),
 (nC5)-[:Conexion {costo: 0.45}]->(nD7),
 (nC6)-[:Conexion {costo: 1.78}]->(nD8),
 (nC6)-[:Conexion {costo: 2.17}]->(nD9),
 (nC6)-[:Conexion {costo: 2.44}]->(nD10),
 (nC7)-[:Conexion {costo: 1.38}]->(nD11),
 (nD1)-[:Conexion {costo: 0.9}]->(nE1),
 (nD1)-[:Conexion {costo: 1.78}]->(nE2),
 (nD4)-[:Conexion {costo: 0.32}]->(nE3),
 (nD6)-[:Conexion {costo: 1.3}]->(nE4),
 (nD6)-[:Conexion {costo: 1.48}]->(nE5),

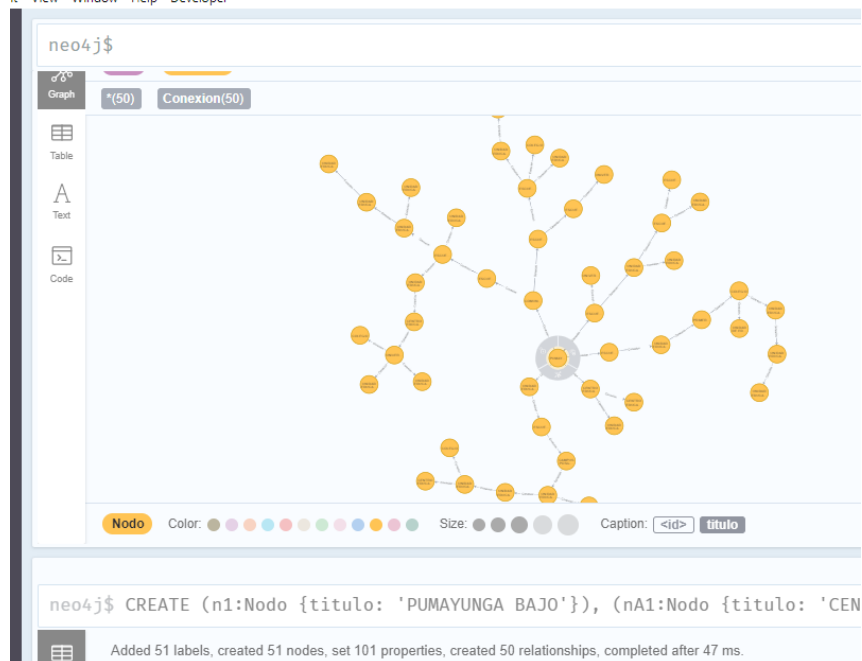
```

(nD8)-[:Conexion {costo: 0.85}]->(nE6),
(nD11)-[:Conexion {costo: 1.75}]->(nE7),
(nD11)-[:Conexion {costo: 1.4}]->(nE8),
(nD11)-[:Conexion {costo: 0.64}]->(nE9),
(nE1)-[:Conexion {costo: 1.19}]->(nF1),
(nE3)-[:Conexion {costo: 0.66}]->(nF2),
(nE5)-[:Conexion {costo: 0.48}]->(nF3),
(nE7)-[:Conexion {costo: 1.72}]->(nF4),
(nF1)-[:Conexion {costo: 0.87}]->(nG1),
(nF2)-[:Conexion {costo: 1.78}]->(nG2),
(nF2)-[:Conexion {costo: 2.39}]->(nG3),
(nF2)-[:Conexion {costo: 0.4}]->(nG4),
(nF4)-[:Conexion {costo: 2.92}]->(nG5),
(nF4)-[:Conexion {costo: 3.37}]->(nG6)

```

- GRAFO

j@bolt://localhost:7687/neo4j - Neo4j Browser
 it View Window Help Developer



- TABLA DE DATOS

neo4j\$ Match (p:Nodo) return p

"P"
{"titulo": "PUMAYUNGA BAJO"}
{"titulo": "CENTRO EDUCATIVO MADRID"}
{"titulo": "ESCUELA EMILIO MURILLO"}
{"titulo": "ESCUELA RAFAEL AGUILAR3"}
{"titulo": "COMUNIDAD EDUCATIVA PARTICULAR CARLOS CRESPI II"}
{"titulo": "UNIDAD EDUCATIVA LUIS MONSALVE POZO"}

- CREO EL GRAFICO CON LOS NODOS Y RELACIONES UTILIZANDO LA FUNCION GDS.GRAPH

Table	Server version	Neo4j/4.2.5
Text	Server address	localhost:7687
Code	Query	CALL gds.graph.create('unidadesEducativasGraph', 'Nodo', 'Conexion', { relationshipProperties: 'costo' })
	Summary	{, "query": {, "text": "CALL gds.graph.create('unidadesEducativasGraph', 'Nodo', 'Conexion', { relationshipProperties: 'costo' })", ...
	Response	[, {, "keys": [...

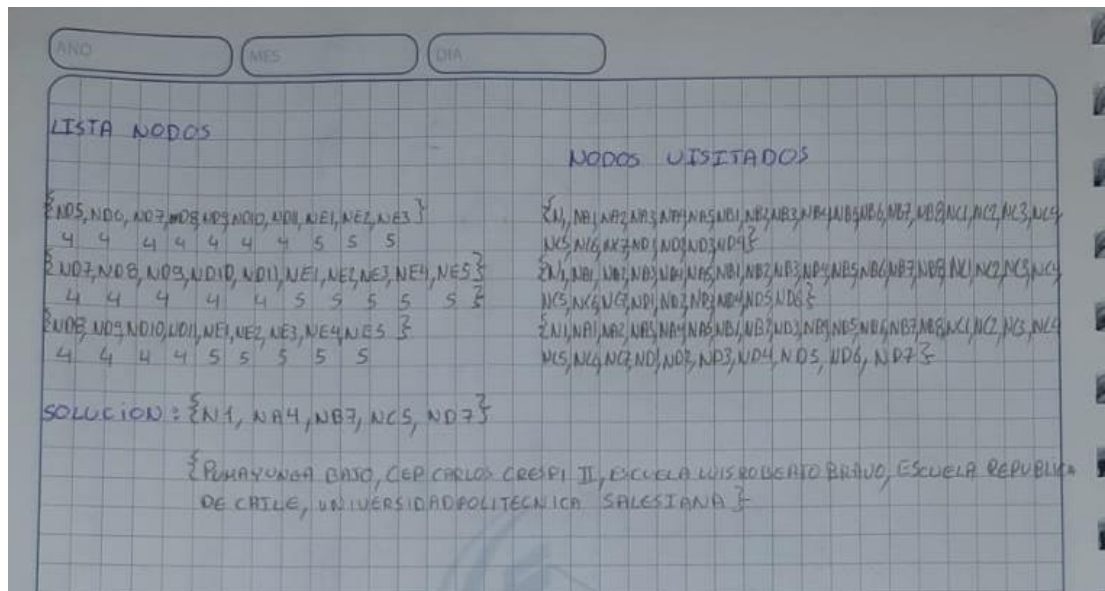
```
CALL gds.graph.create(  
  'myGraph',  
  'Nodo',  
  'Conexion',  
  {  
    relationshipProperties: 'costo'  
  }  
)
```

[Capte la atención de los lectores mediante una cita importante extraída del documento o utilice este espacio para resaltar un punto clave. Para colocar el cuadro de texto en cualquier lugar de la página, solo tiene que arrastrarlo.]

BUSQUEDA POR AMPLITUD

- MANUAL

AND	MES	DIA
BUSQUEDA POR AMPLITUD		
NODO ORIGIN: N1		NODO DESTINO: ND7
LISTA NODOS	VISITADOS	
{N1}	{ }	
{NA1, NA2, NA3, NA4, NAS}	{NI}	
{NA2, NA3, NA4, NAS, NB1, NB2}	{N1, NA1}	
{NA3, NA4, NAS, NB1, NB2, NB3}	{N1, NA1, NA2}	
{NA4, NAS, NB1, NB2, NB3, NB4, NB5}	{N1, NA1, NA2, NA3}	
{NAS, NB1, NB2, NB3, NB4, NB5, NB6, NB7}	{N1, NA1, NA2, NA3, NA4}	
{NB1, NB2, NB3, NB4, NB5, NB6, NB7, NB8}	{N1, NA1, NA2, NA3, NA4, NAS}	
{NB4, NB5, NB6, NB7, NB8, NC1}	{N1, NA1, NA2, NB3, NB4, NAS, NB1, NB2, NB3}	
{NB5, NB6, NB7, NB8, NC1, NC2, NC3}	{N1, NA1, NA2, NA3, NB4, NAS, NB1, NB2, NB3, NB4}	
{NB7, NB8, NC1, NC2, NC3, NC4}	{N1, NA1, NA2, NA3, NB4, NAS, NB1, NB2, NB3, NB4, NAS}	
{NB8, NC1, NC2, NC3, NC4, NC5, NC6}	{N1, NA1, NB2, NA3, NB4, NAS, NB1, NB2, NB3, NB4, NAS, NB6, ND7}	
{NC1, NC2, NC3, NC4, NC5, NC6, NC7}	{N1, NA1, NB2, NA3, NC1, NC2, NB3, NB4, NB5, NB6, NB7, NB8}	
{NC2, NC3, NC4, NC5, NC6, NC7, ND1}	{N1, NA1, NB2, NA3, NC1, NC2, NB3, NB4, NB5, NB6, NB7, NB8, NC1}	
{NC5, NC6, NC7, ND1, ND2, ND3, ND4, ND5, ND6}	{N1, NA1, NB2, NA3, NC1, NC2, NB3, NB4, NB5, NB6, NB7, NB8, NC1, NC2, NC3, NC4, NC5, NC6, NC7}	
{ND6, NC7, ND1, ND2, ND3, ND4, ND5, ND6, ND7}	{N1, NA1, NB2, NA3, NC1, NC2, NB3, NB4, NB5, NB6, NB7, NB8, NC1, NC2, NC3, NC4, NC5, NC6, NC7, ND1, ND2, ND3, ND4, ND5, ND6, ND7}	
{NC7, NC1, ND1, ND2, ND3, ND4, ND5, ND6, ND7, ND8, ND9, ND10}	{N1, NA1, NB2, NA3, NC1, NC2, NB3, NB4, NB5, NB6, NB7, NB8, NC1, NC2, NC3, NC4, NC5, NC6, NC7, ND1, ND2, ND3, ND4, ND5, ND6, ND7, ND8, ND9, ND10}	
{ND1, ND2, ND3, ND4, ND5, ND6, ND7, ND8, ND9, ND10, ND11, ND12}	{N1, NA1, NB2, NA3, NC1, NC2, NB3, NB4, NB5, NB6, NB7, NB8, NC1, NC2, NC3, NC4, NC5, NC6, NC7, ND1, ND2, ND3, ND4, ND5, ND6, ND7, ND8, ND9, ND10, ND11, ND12}	
{ND2, ND3, ND4, ND5, ND6, ND7, ND8, ND9, ND10, ND11, ND12}	{N1, NA1, NB2, NA3, NC1, NC2, NB3, NB4, NB5, NB6, NB7, NB8, NC1, NC2, NC3, NC4, NC5, NC6, NC7, ND1, ND2, ND3, ND4, ND5, ND6, ND7, ND8, ND9, ND10, ND11, ND12}	



NEO4J: AMPLITUD

DESTINO: UNIVERSIDAD POLITECNICA SALESIANA

```

MATCH (n1:Nodo{titulo:'PUMAYUNGA BAJO'}), (nD7:Nodo{titulo:'UNIVERSIDAD POLITECNICA SALESIANA'})
WITH id(n1) AS startNode, [id(nD7)] AS targetNodes
CALL gds.alpha.bfs.stream('unidadesEducativasGraph2', {startNode: startNode, targetNodes: targetNodes})
YIELD path
UNWIND [ n in nodes(path) | n.titulo ] AS amplitud_n1_nD7
RETURN amplitud_n1_nD7

```

```

1 MATCH (n1:Nodo{titulo:'PUMAYUNGA BAJO'}), (nD7:Nodo{titulo:'UNIVERSIDAD POLITECNICA SALESIANA'})
2 WITH id(n1) AS startNode, [id(nD7)] AS targetNodes
3 CALL gds.alpha.bfs.stream('unidadesEducativasGraph2', {startNode: startNode, targetNodes: targetNodes})
4 YIELD path
5 UNWIND [ n in nodes(path) | n.titulo ] AS amplitud_n1_nD7
6 RETURN amplitud_n1_nD7

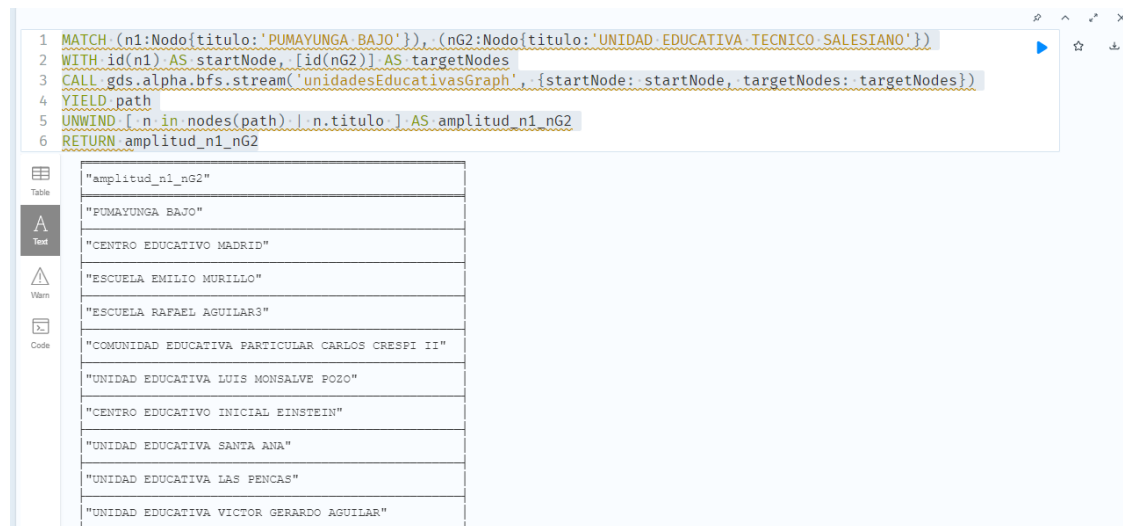
```

	amplitud_n1_nD7
1	"PUMAYUNGA BAJO"
2	"CENTRO EDUCATIVO MADRID"
3	"ESCUELA EMILIO MURILLO"
4	"ESCUELA RAFAEL AGUILAR3"
5	"COMUNIDAD EDUCATIVA PARTICULAR CARLOS CRESPI II"
6	"UNIDAD EDUCATIVA LUIS MONSALVE POZO"

NEO4J: AMPLITUD

DESTINO: UNIDAD EDUCATIVA TECNICO SALESIANO

```
MATCH (n1:Nodo{titulo:'PUMAYUNGA BAJO'}), (nG2:Nodo{titulo:'UNIDAD EDUCATIVA TECNICO SALESIANO'})
WITH id(n1) AS startNode, [id(nG2)] AS targetNodes
CALL gds.alpha.bfs.stream('unidadesEducativasGraph', {startNode: startNode, targetNodes: targetNodes})
YIELD path
UNWIND [ n in nodes(path) | n.titulo ] AS amplitud_n1_nG2
RETURN amplitud_n1_nG2
```



The screenshot shows the Neo4j Cypher console with the following query:

```
1 MATCH (n1:Nodo{titulo:'PUMAYUNGA BAJO'}), (nG2:Nodo{titulo:'UNIDAD EDUCATIVA TECNICO SALESIANO'})
2 WITH id(n1) AS startNode, [id(nG2)] AS targetNodes
3 CALL gds.alpha.bfs.stream('unidadesEducativasGraph', {startNode: startNode, targetNodes: targetNodes})
4 YIELD path
5 UNWIND [ n in nodes(path) | n.titulo ] AS amplitud_n1_nG2
6 RETURN amplitud_n1_nG2
```

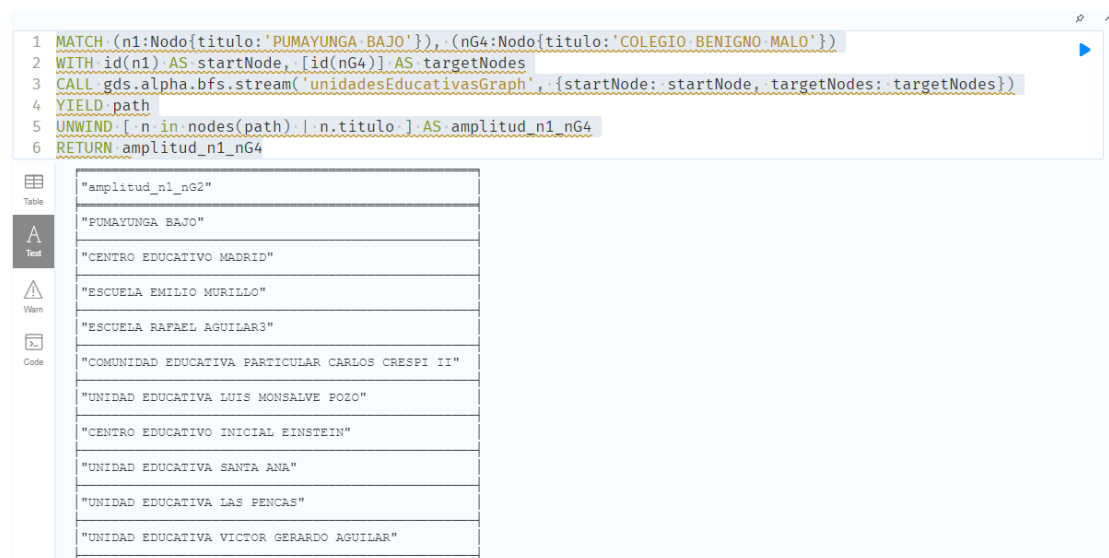
The results table displays the following data:

"amplitud_n1_nG2"
"PUMAYUNGA BAJO"
"CENTRO EDUCATIVO MADRID"
"ESCUELA EMILIO MURILLO"
"ESCUELA RAFAEL AGUILAR3"
"COMUNIDAD EDUCATIVA PARTICULAR CARLOS CRESPI II"
"UNIDAD EDUCATIVA LUIS MONSALVE POZO"
"CENTRO EDUCATIVO INICIAL EINSTEIN"
"UNIDAD EDUCATIVA SANTA ANA"
"UNIDAD EDUCATIVA LAS PENCAS"
"UNIDAD EDUCATIVA VICTOR GERARDO AGUILAR"

NEO4J: AMPLITUD

DESTINO: COLEGIO BENIGNO MALO

```
MATCH (n1:Nodo{titulo:'PUMAYUNGA BAJO'}), (nG4:Nodo{titulo:'COLEGIO BENIGNO MALO'})
WITH id(n1) AS startNode, [id(nG4)] AS targetNodes
CALL gds.alpha.bfs.stream('unidadesEducativasGraph', {startNode: startNode, targetNodes: targetNodes})
YIELD path
UNWIND [ n in nodes(path) | n.titulo ] AS amplitud_n1_nG4
RETURN amplitud_n1_nG4
```



The screenshot shows the Neo4j Cypher console with the following query:

```
1 MATCH (n1:Nodo{titulo:'PUMAYUNGA BAJO'}), (nG4:Nodo{titulo:'COLEGIO BENIGNO MALO'})
2 WITH id(n1) AS startNode, [id(nG4)] AS targetNodes
3 CALL gds.alpha.bfs.stream('unidadesEducativasGraph', {startNode: startNode, targetNodes: targetNodes})
4 YIELD path
5 UNWIND [ n in nodes(path) | n.titulo ] AS amplitud_n1_nG4
6 RETURN amplitud_n1_nG4
```

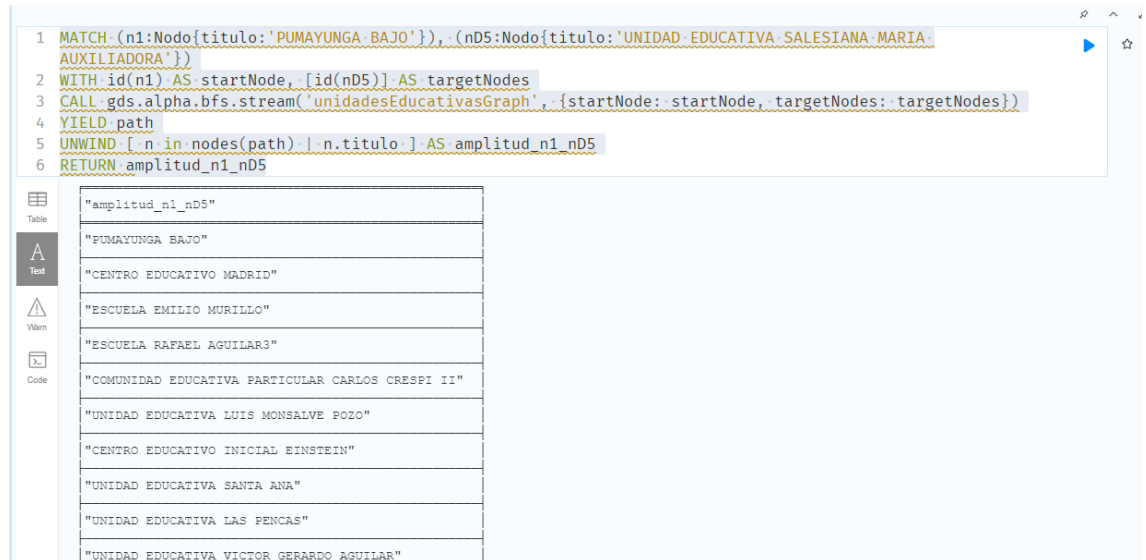
The results table displays the following data:

"amplitud_n1_nG2"
"PUMAYUNGA BAJO"
"CENTRO EDUCATIVO MADRID"
"ESCUELA EMILIO MURILLO"
"ESCUELA RAFAEL AGUILAR3"
"COMUNIDAD EDUCATIVA PARTICULAR CARLOS CRESPI II"
"UNIDAD EDUCATIVA LUIS MONSALVE POZO"
"CENTRO EDUCATIVO INICIAL EINSTEIN"
"UNIDAD EDUCATIVA SANTA ANA"
"UNIDAD EDUCATIVA LAS PENCAS"
"UNIDAD EDUCATIVA VICTOR GERARDO AGUILAR"

NEO4J: AMPLITUD

DESTINO: UNIDAD EDUCATIVA SALESIANA MARIA AUXILIADORA

```
MATCH (n1:Nodo{titulo:'PUMAYUNGA BAJO'}), (nD5:Nodo{titulo:'UNIDAD EDUCATIVA SALESIANA MARIA AUXILIADORA'})
WITH id(n1) AS startNode, [id(nD5)] AS targetNodes
CALL gds.alpha.bfs.stream('unidadesEducativasGraph', {startNode: startNode, targetNodes: targetNodes})
YIELD path
UNWIND [ n in nodes(path) | n.titulo ] AS amplitud_n1_nD5
RETURN amplitud_n1_nD5
```



The screenshot shows the Neo4j Cypher console interface. The query is executed, and the results are displayed in a table view. The table has a single column labeled "amplitud_n1_nD5" and contains 11 rows of educational institution names.

"amplitud_n1_nD5"
"PUMAYUNGA BAJO"
"CENTRO EDUCATIVO MADRID"
"ESCUELA EMILIO MURILLO"
"ESCUELA RAFAEL AGUILAR3"
"COMUNIDAD EDUCATIVA PARTICULAR CARLOS CRESPI II"
"UNIDAD EDUCATIVA LUIS MONSALVE POZO"
"CENTRO EDUCATIVO INICIAL EINSTEIN"
"UNIDAD EDUCATIVA SANTA ANA"
"UNIDAD EDUCATIVA LAS PENCAS"
"UNIDAD EDUCATIVA VICTOR GERARDO AGUILAR"

NEO4J: AMPLITUD

DESTINO: UNIVERSIDAD DE CUENCA

```
MATCH (n1:Nodo{titulo:'PUMAYUNGA BAJO'}), (nF2:Nodo{titulo:'UNIVERSIDAD DE CUENCA'})
WITH id(n1) AS startNode, [id(nF2)] AS targetNodes
CALL gds.alpha.bfs.stream('unidadesEducativasGraph', {startNode: startNode, targetNodes: targetNodes})
YIELD path
UNWIND [ n in nodes(path) | n.titulo ] AS amplitud_n1_nF2
RETURN amplitud_n1_nF2
```

```

1 MATCH (n1:Nodo{titulo:'PUMAYUNGA BAJO'}), (nF2:Nodo{titulo:'UNIVERSIDAD DE CUENCA'})
2 WITH id(n1) AS startNode, [id(nF2)] AS targetNodes
3 CALL gds.alpha.bfs.stream('unidadesEducativasGraph', {startNode: startNode, targetNodes: targetNodes})
4 YIELD path
5 UNWIND [ n in nodes(path) | n.titulo ] AS amplitud_n1_nF2
6 RETURN amplitud_n1_nF2

```

Table

Text

Warn

Code

"amplitud_n1_nF2"
"PUMAYUNGA BAJO"
"CENTRO EDUCATIVO MADRID"
"ESCUELA EMILIO MURILLO"
"ESCUELA RAFAEL AGUILAR3"
"COMUNIDAD EDUCATIVA PARTICULAR CARLOS CRESPI II"
"UNIDAD EDUCATIVA LUIS MONSALVE POZO"
"CENTRO EDUCATIVO INICIAL EINSTEIN"
"UNIDAD EDUCATIVA SANTA ANA"
"UNIDAD EDUCATIVA LAS PENCAS"

BUSQUEDA COSTO UNIFORME

MANUAL

ANO	MES	DIA
BUSQUEDA POR COSTO UNIFORME: UNIVERSIDAD POLITECNICA SALESIANA		
LISTA NODOS		VISITADOS
{N1}		{N1}
{0}		{0}
{NB2, NA1, NA3, NA5, NA4}		{N1, NA2}
{(151) (154) (156) (225) (254)}		{0} (151)
{NA1, NA3, NA5, NA4, NB3}		{N1, NA2, NA1}
{(154) (156) (225) (254) (254)}		{0} (151) (154) (156)
{NA3, NA5, NA4, NB3, NB1, NB2}		{N1, NA2, NA1, NA3}
{(156) (225) (254) (254) (209) (207)}		{0} (151) (154) (156) (204) (207) (225) (254)
{NB1, NB2, NA5, NA4, NB3, NB5, NB4}		{N1, NA2, NA1, NA3, NB1, NB2, NA5}
{(204) (207) (225) (254) (154) (234) (234)}		{0} (151) (154) (156) (204) (207) (225) (254)
{NB4, NA4, NB3, NB5, NB8}		{N1, NA2, NA1, NA3, NB1, NB2, NA5, NB4}
{(234) (254) (254) (234) (352)}		{0} (151) (154) (156) (204) (207) (225) (254)
{NA4, NB3, NB5, NB8, NC3, NC2}		{N1, NA2, NA1, NA3, NB1, NB2, NA5, NB4, NA4}
{(254) (254) (273) (351) (273) (308)}		{0} (151) (154) (156) (204) (207) (225) (254)
{NB3, NB5, NB8, NC3, NC2, NB6, NB7}		{N1, NA2, NA1, NA3, NB1, NB2, NA5, NB4, NA4, NB3}
{(254) (273) (351) (273) (308) (308) (371)}		{0} (151) (154) (156) (204) (207) (225) (254)
{NB5, NB8, NC3, NC2, NB6, NB7, NC1}		{N1, NA2, NA1, NA3, NB1, NB2, NA5, NB4, NA4, NB3, NC3, NC2}
{(273) (351) (273) (308) (308) (371) (311)}		{0} (151) (154) (156) (204) (207) (225) (254)
{NC2, NB8, NB6, NB7, ND1}		{N1, NA2, NA1, NA3, NB1, NB2, NA5, NB4, NA4, NB3, NC3, NC2, NC1}
{(308) (351) (308) (371) (437)}		{0} (151) (154) (156) (204) (207) (225) (254)
{NB8, NB6, NB7, ND1, ND2, ND3}		{N1, NA2, NA1, NA3, NB1, NB2, NA5, NB4, NA4, NB3, NC3, NC2, NC1, ND2}
{(351) (345) (371) (437) (388) (425)}		{0} (151) (154) (156) (204) (207) (225) (254)
{NB6, NB7, ND2, ND1, ND3, NC3}		{N1, NA2, NA1, NA3, NB1, NB2, NA5, NB4, NA4, NB3, NC3, NC2, NC1, ND2, ND3}
{(365) (371) (388) (437) (425) (431)}		{0} (151) (154) (156) (204) (207) (225) (254)
{NB7, ND2, ND3, NC3, ND1, NC4}		{N1, NA2, NA1, NA3, NB1, NB2, NA5, NB4, NA4, NB3, NC3, NC2, NC1, ND2, ND3, NC4}
{(371) (388) (437) (431) (437) (447)}		{0} (151) (154) (156) (204) (207) (225) (254)
{ND2, ND3, NC3, ND1, NC4, NC5, NC6}		{N1, NA2, NA1, NA3, NB1, NB2, NA5, NB4, NA4, NB3, NC3, NC2, NC1, ND2, ND3, NC4, NC5, NC6}
{(388) (425) (437) (437) (447) (447) (462)}		{0} (151) (154) (156) (204) (207) (225) (254)
{ND3, NC3, ND1, NC4, NC5, ND7}		{N1, NA2, NA1, NA3, NB1, NB2, NA5, NB4, NA4, NB3, NC3, NC2, NC1, ND2, ND3, NC4, NC5, ND7}
{(425) (437) (437) (447) (447) (447) (462)}		{0} (151) (154) (156) (204) (207) (225) (254)
{ND1, NC4, NC6, ND3, ND1}		{N1, NA2, NA1, NA3, NB1, NB2, NA5, NB4, NA4, NB3, NC3, NC2, NC1, ND2, ND3, NC4, NC5, ND7, ND1}
{(437) (447) (447) (447) (447) (447) (462)}		{0} (151) (154) (156) (204) (207) (225) (254)
{NC6, ND3, ND1, NC4, NC5, ND8, ND4, ND5}		{N1, NA2, NA1, NA3, NB1, NB2, NA5, NB4, NA4, NB3, NC3, NC2, NC1, ND2, ND3, NC4, NC5, ND7, ND1, NC6}
{(447) (447) (447) (447) (447) (447) (462)}		{0} (151) (154) (156) (204) (207) (225) (254)
{ND7, ND3, NC5, ND3, NC7, ND1, NC4}		{N1, NA2, NA1, NA3, NB1, NB2, NA5, NB4, NA4, NB3, NC3, NC2, NC1, ND2, ND3, NC4, NC5, ND7, ND1, NC6, ND7}
{(371) (388) (447) (425) (437) (437) (447) (447)}		{0} (151) (154) (156) (204) (207) (225) (254)

{ND7, ND3, NC5, ND3, NC7, ND1, NC4}		{N1, NA2, NA1, NA3, NB1, NB2, NA5, NB4, NA4, NB3, NC3, NC2, NC1, ND2, ND3, NC4, NC5, ND7, ND1, NC6, ND7}
{(371) (388) (447) (425) (437) (437) (447) (447)}		{0} (151) (154) (156) (204) (207) (225) (254)
{ND7, ND3, NC5, ND3, NC7, ND1, NC4}		{N1, NA2, NA1, NA3, NB1, NB2, NA5, NB4, NA4, NB3, NC3, NC2, NC1, ND2, ND3, NC4, NC5, ND7, ND1, NC6, ND7}
{(371) (388) (447) (425) (437) (437) (447) (447)}		{0} (151) (154) (156) (204) (207) (225) (254)
{ND7, ND3, NC5, ND3, NC7, ND1, NC4}		{N1, NA2, NA1, NA3, NB1, NB2, NA5, NB4, NA4, NB3, NC3, NC2, NC1, ND2, ND3, NC4, NC5, ND7, ND1, NC6, ND7}
{(371) (388) (447) (425) (437) (437) (447) (447)}		{0} (151) (154) (156) (204) (207) (225) (254)
{ND7, ND3, NC5, ND3, NC7, ND1, NC4}		{N1, NA2, NA1, NA3, NB1, NB2, NA5, NB4, NA4, NB3, NC3, NC2, NC1, ND2, ND3, NC4, NC5, ND7, ND1, NC6, ND7}
{(371) (388) (447) (425) (437) (437) (447) (447)}		{0} (151) (154) (156) (204) (207) (225) (254)
{ND7, ND3, NC5, ND3, NC7, ND1, NC4}		{N1, NA2, NA1, NA3, NB1, NB2, NA5, NB4, NA4, NB3, NC3, NC2, NC1, ND2, ND3, NC4, NC5, ND7, ND1, NC6, ND7}
{(371) (388) (447) (425) (437) (437) (447) (447)}		{0} (151) (154) (156) (204) (207) (225) (254)

SCRIPT

```
MATCH (n:Nodo {titulo: 'PUMAYUNGA BAJO'})
CALL gds.alpha.shortestPath.deltaStepping.stream({
  nodeProjection: 'Nodo',
  relationshipProjection: {
    Conexion: {
      type: 'Conexion',
      properties: 'costo'
    }
  },
  startNode: n,
  relationshipWeightProperty: 'costo',
  delta: 3.0
})
YIELD nodeId, distance
RETURN gds.util.asNode(nodeId).titulo AS UE_DESTINO, distance AS DISTANCIA
```

- DESTINO: UNIVERSIDAD POLITECNICA SALESIANA

UE_DESTINO	DISTANCIA
"UNIVERSIDAD POLITECNICA SALESIANA"	4.64

- DESTINO: UNIDAD EDUCATIVA TECNICO SALESIANO
- DESTINO: COLEGIO BENIGNO MALO

UE_DESTINO	DISTANCIA
"UNIDAD EDUCATIVA PARTICULAR BORJA"	7.33
"UNIDAD EDUCATIVA TECNICO SALESIANO"	7.87
"UNIDAD EDUCATIVA LA ASUNCION"	8.48
"COLEGIO BENIGNO MALO"	6.49

- DESTINO: UNIDAD EDUCATIVA SALESIANA MARIA AUXILIADORA

UE_DESTINO	DISTANCIA
"UNIDAD EDUCATIVA SALESIANA MARIA AUXILIADORA"	5.24

- DESTINO: UNIVERSIDAD DE CUENCA

UE_DESTINO	DISTANCIA
"UNIVERSIDAD DE CUENCA"	6.09

BUSQUEDA POR DIJKSTRA

- MANUAL

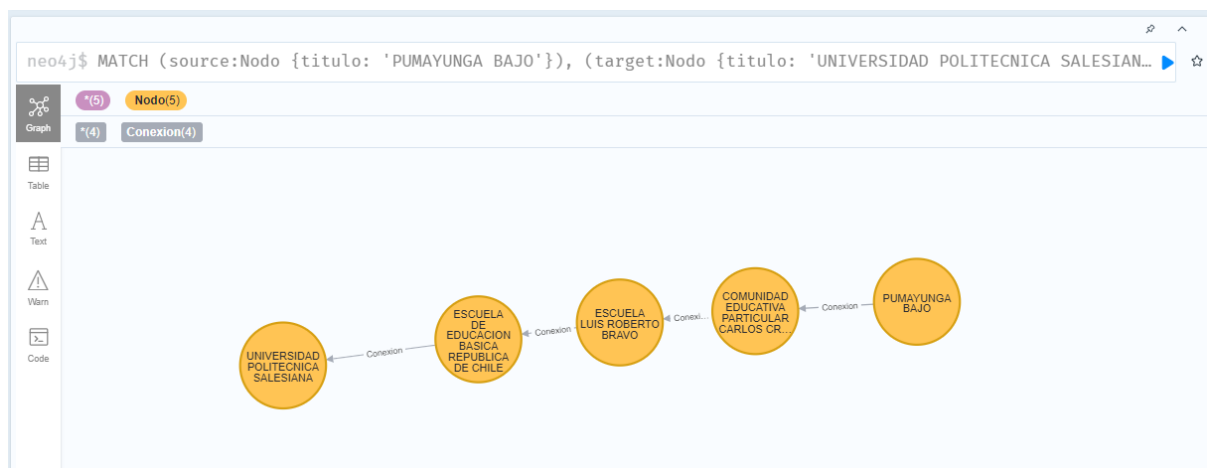
UNIUNIVERSIDAD POLITÉCNICA SALESIANA		
PILA	COSTE	VISITADOS
{N1}		{N1, N2}
{N2, N1}	1,51	{N1, N2, N3}
{N3, N2, N1}	2,54	{N1, N2, N3, N4}
{N4, N3, N2, N1}	6,10	{N1, N2, N3, N4, N5}
{N5, N4, N3, N2, N1}	7,37	{N1, N2, N3, N4, N5, N6}
{N6, N5, N4, N3, N2, N1}	8,27	{N1, N2, N3, N4, N5, N6, N7}
{N7, N6, N5, N4, N3, N2, N1}	9,46	{N1, N2, N3, N4, N5, N6, N7, N8}
{N8, N7, N6, N5, N4, N3, N2, N1}	10,33	{N1, N2, N3, N4, N5, N6, N7, N8, N9}
{N9, N8, N7, N6, N5, N4, N3, N2, N1}	9,15	{N1, N2, N3, N4, N5, N6, N7, N8, N9, N10}
{N10, N9, N8, N7, N6, N5, N4, N3, N2, N1}	1,59	{N1, N2, N3, N4, N5, N6, N7, N8, N9, N10, N11}
{N11, N10, N9, N8, N7, N6, N5, N4, N3, N2, N1}	2,04	{N1, N2, N3, N4, N5, N6, N7, N8, N9, N10, N11, N12}
{N12, N11, N10, N9, N8, N7, N6, N5, N4, N3, N2, N1}	2,77	{N1, N2, N3, N4, N5, N6, N7, N8, N9, N10, N11, N12, N13}
{N13, N12, N11, N10, N9, N8, N7, N6, N5, N4, N3, N2, N1}	1,50	{N1, N2, N3, N4, N5, N6, N7, N8, N9, N10, N11, N12, N13, N14}
{N14, N13, N12, N11, N10, N9, N8, N7, N6, N5, N4, N3, N2, N1}	2,30	{N1, N2, N3, N4, N5, N6, N7, N8, N9, N10, N11, N12, N13, N14, N15}
{N15, N14, N13, N12, N11, N10, N9, N8, N7, N6, N5, N4, N3, N2, N1}	2,75	{N1, N2, N3, N4, N5, N6, N7, N8, N9, N10, N11, N12, N13, N14, N15, N16}
{N16, N15, N14, N13, N12, N11, N10, N9, N8, N7, N6, N5, N4, N3, N2, N1}	3,08	{N1, N2, N3, N4, N5, N6, N7, N8, N9, N10, N11, N12, N13, N14, N15, N16, N17}
{N17, N16, N15, N14, N13, N12, N11, N10, N9, N8, N7, N6, N5, N4, N3, N2, N1}	3,08	{N1, N2, N3, N4, N5, N6, N7, N8, N9, N10, N11, N12, N13, N14, N15, N16, N17, N18}
{N18, N17, N16, N15, N14, N13, N12, N11, N10, N9, N8, N7, N6, N5, N4, N3, N2, N1}	4,25	{N1, N2, N3, N4, N5, N6, N7, N8, N9, N10, N11, N12, N13, N14, N15, N16, N17, N18, N19}
{N19, N18, N17, N16, N15, N14, N13, N12, N11, N10, N9, N8, N7, N6, N5, N4, N3, N2, N1}	2,95	{N1, N2, N3, N4, N5, N6, N7, N8, N9, N10, N11, N12, N13, N14, N15, N16, N17, N18, N19, N20}
{N20, N19, N18, N17, N16, N15, N14, N13, N12, N11, N10, N9, N8, N7, N6, N5, N4, N3, N2, N1}	2,75	{N1, N2, N3, N4, N5, N6, N7, N8, N9, N10, N11, N12, N13, N14, N15, N16, N17, N18, N19, N20, N21}
{N21, N20, N19, N18, N17, N16, N15, N14, N13, N12, N11, N10, N9, N8, N7, N6, N5, N4, N3, N2, N1}	2,75	{N1, N2, N3, N4, N5, N6, N7, N8, N9, N10, N11, N12, N13, N14, N15, N16, N17, N18, N19, N20, N21, N22}
{N22, N21, N20, N19, N18, N17, N16, N15, N14, N13, N12, N11, N10, N9, N8, N7, N6, N5, N4, N3, N2, N1}	2,75	{N1, N2, N3, N4, N5, N6, N7, N8, N9, N10, N11, N12, N13, N14, N15, N16, N17, N18, N19, N20, N21, N22, N23}
{N23, N22, N21, N20, N19, N18, N17, N16, N15, N14, N13, N12, N11, N10, N9, N8, N7, N6, N5, N4, N3, N2, N1}	3,57	{N1, N2, N3, N4, N5, N6, N7, N8, N9, N10, N11, N12, N13, N14, N15, N16, N17, N18, N19, N20, N21, N22, N23, N24}
{N24, N23, N22, N21, N20, N19, N18, N17, N16, N15, N14, N13, N12, N11, N10, N9, N8, N7, N6, N5, N4, N3, N2, N1}	4,32	{N1, N2, N3, N4, N5, N6, N7, N8, N9, N10, N11, N12, N13, N14, N15, N16, N17, N18, N19, N20, N21, N22, N23, N24, N25}
{N25, N24, N23, N22, N21, N20, N19, N18, N17, N16, N15, N14, N13, N12, N11, N10, N9, N8, N7, N6, N5, N4, N3, N2, N1}	5,7	{N1, N2, N3, N4, N5, N6, N7, N8, N9, N10, N11, N12, N13, N14, N15, N16, N17, N18, N19, N20, N21, N22, N23, N24, N25, N26}
{N26, N25, N24, N23, N22, N21, N20, N19, N18, N17, N16, N15, N14, N13, N12, N11, N10, N9, N8, N7, N6, N5, N4, N3, N2, N1}	6,39	{N1, N2, N3, N4, N5, N6, N7, N8, N9, N10, N11, N12, N13, N14, N15, N16, N17, N18, N19, N20, N21, N22, N23, N24, N25, N26, N27}
{N27, N26, N25, N24, N23, N22, N21, N20, N19, N18, N17, N16, N15, N14, N13, N12, N11, N10, N9, N8, N7, N6, N5, N4, N3, N2, N1}	7,1	{N1, N2, N3, N4, N5, N6, N7, N8, N9, N10, N11, N12, N13, N14, N15, N16, N17, N18, N19, N20, N21, N22, N23, N24, N25, N26, N27, N28}
{N28, N27, N26, N25, N24, N23, N22, N21, N20, N19, N18, N17, N16, N15, N14, N13, N12, N11, N10, N9, N8, N7, N6, N5, N4, N3, N2, N1}	7,45	{N1, N2, N3, N4, N5, N6, N7, N8, N9, N10, N11, N12, N13, N14, N15, N16, N17, N18, N19, N20, N21, N22, N23, N24, N25, N26, N27, N28, N29}
NOTAS:		

ANO MES DIA

PILA		COSTE	VISITADOS
	{NE4, NE7, ND11, NC7, NB8, NA5, NI}	9,17	{N1, NA2, NB3, NC1, ND1, NE1, NE1, NG1, NE7, NA1, NB1, NB2, NB4, NC3, NC2, ND3, ND3, NC3, NB5, NB3, NC7, ND1, NE3, NE3, NE3, NE3}
NA4	{NG5, NE4, NE7, ND11, NC7, NB8, NA5, NI}	12,09	{N1, NA2, NB3, NC1, ND1, NE1, NE1, NE1, NE7, NA1, NB1, NB2, NB4, NC3, NC2, ND3, NB3, NC3, NB5, NB3, NC7, ND1, NE3, NE3, NE3, NE3}
NI	{NG6, NE4, NE7, ND11, NC7, NB8, NA5, NI}	12,54	{N1, NB2, NB3, NC1, ND1, NC1, NE1, NG1, NE7, NA1, NB1, NB2, NB4, NC3, NC2, ND3, ND3, NC3, NB5, NB3, NC7, ND1, NE3, NE3, NE3, NE3}
	{NA4, NI}	2,54	{N1, NA2, NB3, NC1, ND1, NE1, NG1, NE7, NA1, NB1, NB2, NB4, NC3, NC2, ND3, ND3, NC3, NB5, NB3, NC7, ND1, NE3, NE3, NE3, NE3}
	{NB6, NA4, NI}	3,65	{N1, NA2, NB3, NC1, ND1, NE1, NG1, NE7, NA1, NB1, NB2, NB4, NC3, NC2, ND3, ND3, NC3, NB5, NB3, NC7, ND1, NE3, NE3, NE3, NE3}
	{NC4, NB6, NA4, NI}	4,47	{N1, NA2, NB3, NC1, ND1, NE1, NG1, NE7, NA1, NB1, NB2, NB4, NC3, NC2, ND3, ND3, NC3, NB5, NB3, NC7, ND1, NE3, NE3, NE3, NE3}
	{ND6, NC4, NB6, NA4, NI}	4,95	{N1, NA2, NB3, NC1, ND1, NE1, NG1, NE7, NA1, NB1, NB2, NB4, NC3, NC2, ND3, ND3, NC3, NB5, NB3, NC7, ND1, NE3, NE3, NE3, NE3}
NC4	{NE4, ND6, NC4, NB6, NA4, NI}	6,25	{N1, NA2, NB3, NC1, ND1, NE1, NG1, NE7, NA1, NB1, NB2, NB4, NC3, NC2, ND3, ND3, NC3, NB5, NB3, NC7, ND1, NE3, NE3, NE3, NE3}
	{ND4, NC4, NB6, NA4, NI}	5,11	{N1, NA2, NB3, NC1, ND1, NE1, NG1, NE7, NA1, NB1, NB2, NB4, NC3, NC2, ND3, ND3, NC3, NB5, NB3, NC7, ND1, NE3, NE3, NE3, NE3}
	{NE3, ND4, NC4, NB6, NA4, NI}	5,43	{N1, NA2, NB3, NC1, ND1, NE1, NG1, NE7, NA1, NB1, NB2, NB4, NC3, NC2, ND3, ND3, NC3, NB5, NB3, NC7, ND1, NE3, NE3, NE3, NE3}
	{NE2, NE3, ND4, NC4, NB6, NA4, NI}	6,09	{N1, NA2, NB3, NC1, ND1, NE1, NG1, NE7, NA1, NB1, NB2, NB4, NC3, NC2, ND3, ND3, NC3, NB5, NB3, NC7, ND1, NE3, NE3, NE3, NE3}
NF2	{NE4, NE3, NE3, ND4, NC4, NB6, NA4, NI}	6,49	{N1, NA2, NB3, NC1, ND1, NE1, NG1, NE7, NA1, NB1, NB2, NB4, NC3, NC2, ND3, ND3, NC3, NB5, NB3, NC7, ND1, NE3, NE3, NE3, NE3}
NF2	{NE2, NE3, NE3, ND4, NC4, NB6, NA4, NI}	7,87	{N1, NA2, NB3, NC1, ND1, NE1, NG1, NE7, NA1, NB1, NB2, NB4, NC3, NC2, ND3, ND3, NC3, NB5, NB3, NC7, ND1, NE3, NE3, NE3, NE3}
NC4	{NG3, NF2, NE3, ND4, NC4, NB6, NA4, NI}	8,48	{N1, NA2, NB3, NC1, ND1, NE1, NG1, NE7, NA1, NB1, NB2, NB4, NC3, NC2, ND3, ND3, NC3, NB5, NB3, NC7, ND1, NE3, NE3, NE3, NE3}
NA4	{ND5, NC4, NB6, NA4, NI}	5,24	{N1, NA2, NB3, NC1, ND1, NE1, NG1, NE7, NA1, NB1, NB2, NB4, NC3, NC2, ND3, ND3, NC3, NB5, NB3, NC7, ND1, NE3, NE3, NE3, NE3}
	{NB7, NA4, NI}	3,71	{N1, NA2, NB3, NC1, ND1, NE1, NG1, NE7, NA1, NB1, NB2, NB4, NC3, NC2, ND3, ND3, NC3, NB5, NB3, NC7, ND1, NE3, NE3, NE3, NE3}
	{NCS, NB7, NA4, NI}	4,19	{N1, NA2, NB3, NC1, ND1, NE1, NG1, NE7, NA1, NB1, NB2, NB4, NC3, NC2, ND3, ND3, NC3, NB5, NB3, NC7, ND1, NE3, NE3, NE3, NE3}
	{ND7, NCS, NB7, NA4, NI}	4,64	{N1, NA2, NB3, NC1, ND1, NE1, NG1, NE7, NA1, NB1, NB2, NB4, NC3, NC2, ND3, ND3, NC3, NB5, NB3, NC7, ND1, NE3, NE3, NE3, NE3}

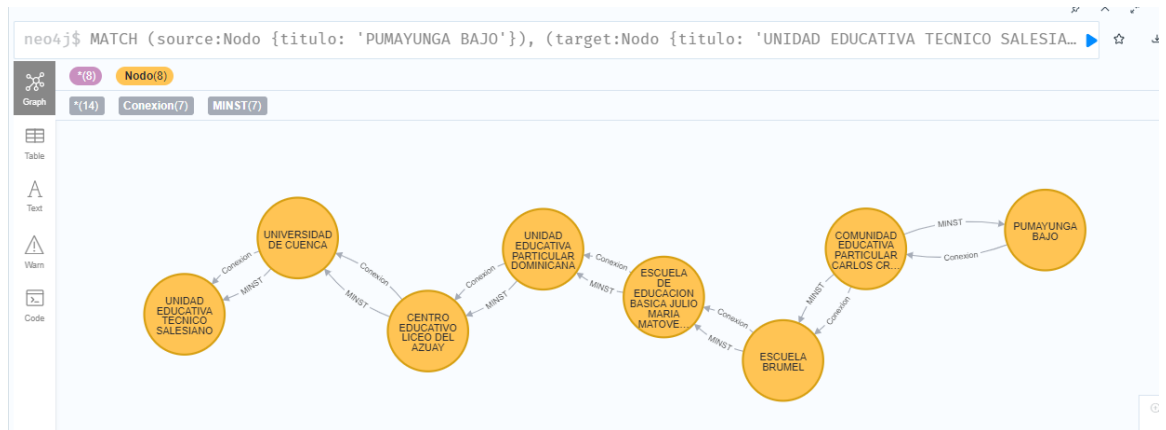
DESTINO: UNIVERSIDAD POLITECNICA SALESIANA

```
MATCH (source:Nodo {titulo: 'PUMAYUNGA BAJO'}), (target:Nodo {titulo: 'UNIVERSIDAD POLITECNICA SALESIANA'})
CALL gds.shortestPath.dijkstra.stream('myGraph', {
  sourceNode: source,
  targetNode: target,
  relationshipWeightProperty: 'costo'
})
YIELD index, sourceNode, targetNode, totalCost, nodeIds, costs, path
RETURN
  index,
  gds.util.asNode(sourceNode).name AS sourceNodeName,
  gds.util.asNode(targetNode).name AS targetNodeName,
  totalCost,
  [nodeId IN nodeIds | gds.util.asNode(nodeId).name] AS nodeNames,
  costs,
  nodes(path) as path
ORDER BY index
```



DESTINO: UNIDAD EDUCATIVA TECNICO SALESIANO

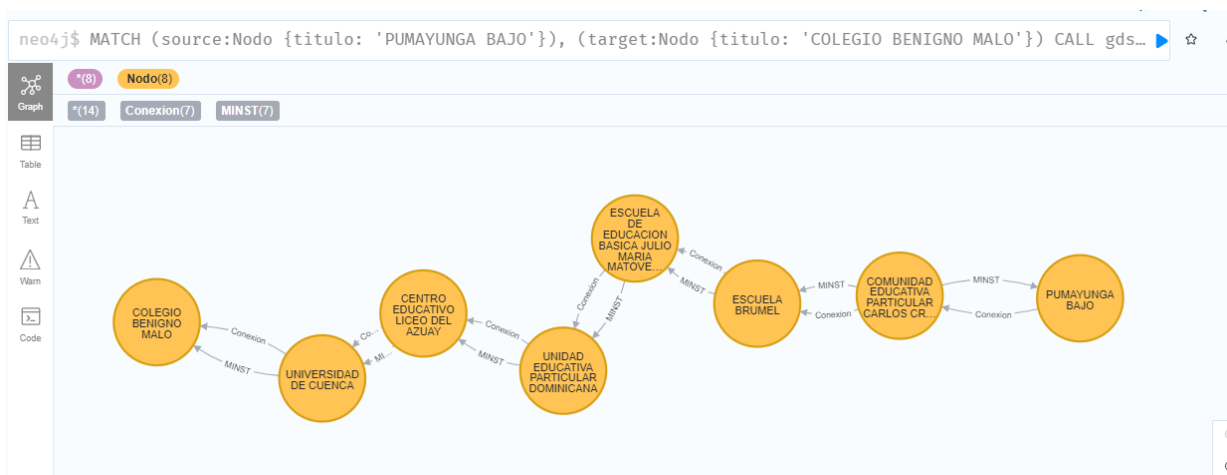
```
MATCH (source:Nodo {titulo: 'PUMAYUNGA BAJO'}), (target:Nodo {titulo: 'UNIDAD EDUCATIVA TECNICO SALESIANO'})
CALL gds.shortestPath.dijkstra.stream('myGraph', {
  sourceNode: source,
  targetNode: target,
  relationshipWeightProperty: 'costo'
})
YIELD index, sourceNode, targetNode, totalCost, nodeIds, costs, path
RETURN
  index,
  gds.util.asNode(sourceNode).name AS sourceNodeName,
  gds.util.asNode(targetNode).name AS targetNodeName,
  totalCost,
  [nodeId IN nodeIds | gds.util.asNode(nodeId).name] AS nodeNames,
  costs,
  nodes(path) as path
ORDER BY index
```



DESTINO: COLEGIO BENIGNO MALO

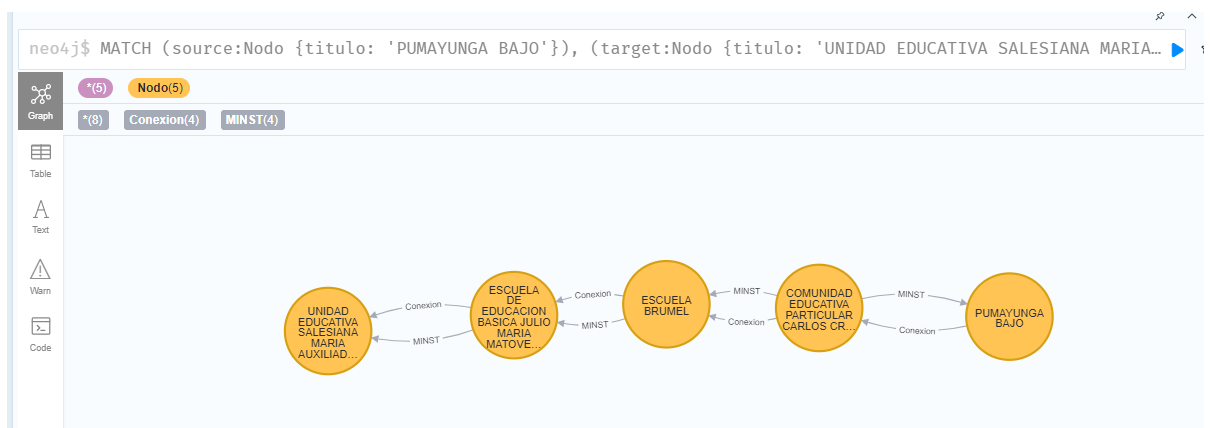
```

MATCH (source:Nodo {titulo: 'PUMAYUNGA BAJO'}), (target:Nodo {titulo: 'COLEGIO BENIGNO MALO'})
CALL gds.shortestPath.dijkstra.stream('myGraph', {
  sourceNode: source,
  targetNode: target,
  relationshipWeightProperty: 'costo'
})
YIELD index, sourceNode, targetNode, totalCost, nodeIds, costs, path
RETURN
  index,
  gds.util.asNode(sourceNode).name AS sourceNodeName,
  gds.util.asNode(targetNode).name AS targetNodeName,
  totalCost,
  [nodeId IN nodeIds | gds.util.asNode(nodeId).name] AS nodeNames,
  costs,
  nodes(path) as path
ORDER BY index
  
```



DESTINO: UNIDAD EDUCATIVA SALESIANA MARIA AUXILIADORA

```
MATCH (source:Nodo {titulo: 'PUMAYUNGA BAJO'}), (target:Nodo {titulo: 'UNIDAD EDUCATIVA SALESIANA MARIA AUXILIADORA'})
CALL gds.shortestPath.dijkstra.stream('myGraph', {
  sourceNode: source,
  targetNode: target,
  relationshipWeightProperty: 'costo'
})
YIELD index, sourceNode, targetNode, totalCost, nodeIds, costs, path
RETURN
  index,
  gds.util.asNode(sourceNode).name AS sourceNodeName,
  gds.util.asNode(targetNode).name AS targetNodeName,
  totalCost,
  [nodeId IN nodeIds | gds.util.asNode(nodeId).name] AS nodeNames,
  costs,
  nodes(path) as path
ORDER BY index
```



DESTINO: UNIVERSIDAD DE CUENCA

```
MATCH (source:Nodo {titulo: 'PUMAYUNGA BAJO'}), (target:Nodo {titulo: 'UNIVERSIDAD DE CUENCA'})
CALL gds.shortestPath.dijkstra.stream('myGraph', {
  sourceNode: source,
  targetNode: target,
  relationshipWeightProperty: 'costo'
})
YIELD index, sourceNode, targetNode, totalCost, nodeIds, costs, path
RETURN
  index,
  gds.util.asNode(sourceNode).name AS sourceNodeName,
  gds.util.asNode(targetNode).name AS targetNodeName,
  totalCost,
  [nodeId IN nodeIds | gds.util.asNode(nodeId).name] AS nodeNames,
  costs,
  nodes(path) as path
ORDER BY index
```

```
neo4j$ MATCH (source:Nodo {titulo: 'PUMAYUNGA BAJO'}), (target:Nodo {titulo: 'UNIVERSIDAD DE CUENCA'}) CALL gd...
```

Graph

(7)

Nodo(7)

(12)

Conexion(6)

MINST(6)

Table

Text

Warn

Code

