Repository: <https://github.com/WillemvdPijl/Dev6B-3A>

1. Creating all of the nodes

//Deleting everything:

//MATCH (n)

//OPTIONAL MATCH (n)-[r]-()

//DELETE n, r;

//Displaying everything:

//match (n)

//return n;

//Creating Airports-----------------------------------------------------------------------------------------------------

create(schiphol:Airport{name:"Schiphol", city: "Amsterdam", capacity: 7500, size: "Medium"})

create(venezia\_marco\_polo:Airport{name:"Venezia Marco Polo", city: "Venezia", capacity: 15000, size: "Large"})

create(london\_north:Airport{name: "London North", city: "London", capacity: 5000, size: "Small"})

create(london\_south:Airport{name: "London South", city: "London", capacity: 10000, size: "Medium"})

create(rome\_airport:Airport{name: "Rome Airport", city: "Rome", capacity: 17000, size: "Large"})

create(airport\_eindhoven:Airport{name: "Airport Eindhoven", city: "Eindhoven", capacity: 4000, size: "Small"})

//Creating Terminals and Gates-----------------------------------------------------------------------------------------------------

//Schiphol

create(AMS01:Terminals{code: "AMS01", open: "yes"})

create(AMS02:Terminals{code: "AMS02", open: "yes"})

create(AMS03:Terminals{code: "AMS03", open: "yes"})

create(AMS04:Terminals{code: "AMS04", open: "no"})

create(AMS05:Terminals{code: "AMS05", open: "yes"})

create(AMS06:Terminals{code: "AMS06", open: "no"})

create(SH01:Gates{number: 1, state: "Boarding"})

create(SH02:Gates{number: 2, state: "Closed"})

create(SH03:Gates{number: 3, state: "Boarding"})

create(SH04:Gates{number: 4, state: "Closed"})

create(SH05:Gates{number: 5, state: "Boarding"})

create(SH06:Gates{number: 6, state: "Closed"})

create(SH07:Gates{number: 7, state: "Boarding"})

create(SH08:Gates{number: 8, state: "Closed"})

create(SH09:Gates{number: 9, state: "Boarding"})

create(SH10:Gates{number: 10, state: "Closed"})

create(SH11:Gates{number: 11, state: "Boarding"})

create(SH12:Gates{number: 12, state: "Closed"})

create(SH13:Gates{number: 13, state: "Boarding"})

create(SH14:Gates{number: 14, state: "Closed"})

create(SH15:Gates{number: 15, state: "Boarding"})

create(SH16:Gates{number: 16, state: "Closed"})

create(SH17:Gates{number: 17, state: "Boarding"})

create(SH18:Gates{number: 18, state: "Closed"})

//Venezia Marco Polo

create(VMP01:Terminals{code: "VMP01", open: "yes"})

create(VMP02:Terminals{code: "VMP02", open: "no"})

create(VMP03:Terminals{code: "VMP03", open: "yes"})

create(VMP04:Terminals{code: "VMP04", open: "no"})

create(VMP05:Terminals{code: "VMP05", open: "yes"})

create(VMP06:Terminals{code: "B", open: "yes"})

create(VM01:Gates{number: 19, state: "Boarding"})

create(VM02:Gates{number: 20, state: "Closed"})

create(VM03:Gates{number: 21, state: "Boarding"})

create(VM04:Gates{number: 22, state: "Closed"})

create(VM05:Gates{number: 23, state: "Boarding"})

create(VM06:Gates{number: 24, state: "Closed"})

create(VM07:Gates{number: 25, state: "Boarding"})

create(VM08:Gates{number: 26, state: "Closed"})

create(VM09:Gates{number: 27, state: "Boarding"})

create(VM10:Gates{number: 28, state: "Closed"})

create(VM11:Gates{number: 29, state: "Boarding"})

create(VM12:Gates{number: 30, state: "Closed"})

create(VM13:Gates{number: 31, state: "Boarding"})

create(VM14:Gates{number: 32, state: "Closed"})

create(VM15:Gates{number: 33, state: "Boarding"})

create(VM16:Gates{number: 34, state: "Closed"})

create(VM17:Gates{number: 35, state: "Boarding"})

create(VM18:Gates{number: 36, state: "Closed"})

//London North

create(LON01:Terminals{code: "LON01", open: "yes"})

create(LON02:Terminals{code: "LON02", open: "no"})

create(LON03:Terminals{code: "LON03", open: "yes"})

create(LON04:Terminals{code: "LON04", open: "no"})

create(LON05:Terminals{code: "LON05", open: "yes"})

create(LON06:Terminals{code: "LON06", open: "yes"})

create(LN01:Gates{number: 37, state: "Boarding"})

create(LN02:Gates{number: 38, state: "Closed"})

create(LN03:Gates{number: 39, state: "Boarding"})

create(LN04:Gates{number: 40, state: "Closed"})

create(LN05:Gates{number: 41, state: "Boarding"})

create(LN06:Gates{number: 42, state: "Closed"})

create(LN07:Gates{number: 43, state: "Boarding"})

create(LN08:Gates{number: 44, state: "Closed"})

create(LN09:Gates{number: 45, state: "Boarding"})

create(LN10:Gates{number: 46, state: "Closed"})

create(LN11:Gates{number: 47, state: "Boarding"})

create(LN12:Gates{number: 48, state: "Closed"})

create(LN13:Gates{number: 49, state: "Boarding"})

create(LN14:Gates{number: 50, state: "Closed"})

create(LN15:Gates{number: 51, state: "Boarding"})

create(LN16:Gates{number: 52, state: "Closed"})

create(LN17:Gates{number: 53, state: "Boarding"})

create(LN18:Gates{number: 54, state: "Closed"})

//London South

create(LOS01:Terminals{code: "LOS01", open: "yes"})

create(LOS02:Terminals{code: "LOS02", open: "yes"})

create(LOS03:Terminals{code: "LOS03", open: "yes"})

create(LOS04:Terminals{code: "LOS04", open: "no"})

create(LOS05:Terminals{code: "LOS05", open: "yes"})

create(LOS06:Terminals{code: "LOS06", open: "no"})

create(LS01:Gates{number: 55, state: "Boarding"})

create(LS02:Gates{number: 56, state: "Closed"})

create(LS03:Gates{number: 57, state: "Boarding"})

create(LS04:Gates{number: 58, state: "Closed"})

create(LS05:Gates{number: 59, state: "Boarding"})

create(LS06:Gates{number: 60, state: "Closed"})

create(LS07:Gates{number: 61, state: "Boarding"})

create(LS08:Gates{number: 62, state: "Closed"})

create(LS09:Gates{number: 63, state: "Boarding"})

create(LS10:Gates{number: 64, state: "Closed"})

create(LS11:Gates{number: 65, state: "Boarding"})

create(LS12:Gates{number: 66, state: "Closed"})

create(LS13:Gates{number: 67, state: "Boarding"})

create(LS14:Gates{number: 68, state: "Closed"})

create(LS15:Gates{number: 69, state: "Boarding"})

create(LS16:Gates{number: 70, state: "Closed"})

create(LS17:Gates{number: 71, state: "Boarding"})

create(LS18:Gates{number: 72, state: "Closed"})

//Rome Airport

create(ROM01:Terminals{code: "ROM01", open: "yes"})

create(ROM02:Terminals{code: "ROM02", open: "yes"})

create(ROM03:Terminals{code: "ROM03", open: "yes"})

create(ROM04:Terminals{code: "ROM04", open: "no"})

create(ROM05:Terminals{code: "ROM05", open: "yes"})

create(ROM06:Terminals{code: "ROM06", open: "no"})

create(RA01:Gates{number: 73, state: "Boarding"})

create(RA02:Gates{number: 74, state: "Closed"})

create(RA03:Gates{number: 75, state: "Boarding"})

create(RA04:Gates{number: 76, state: "Closed"})

create(RA05:Gates{number: 77, state: "Boarding"})

create(RA06:Gates{number: 78, state: "Closed"})

create(RA07:Gates{number: 79, state: "Boarding"})

create(RA08:Gates{number: 80, state: "Closed"})

create(RA09:Gates{number: 81, state: "Boarding"})

create(RA10:Gates{number: 82, state: "Closed"})

create(RA11:Gates{number: 83, state: "Boarding"})

create(RA12:Gates{number: 84, state: "Closed"})

create(RA13:Gates{number: 85, state: "Boarding"})

create(RA14:Gates{number: 86, state: "Closed"})

create(RA15:Gates{number: 87, state: "Boarding"})

create(RA16:Gates{number: 88, state: "Closed"})

create(RA17:Gates{number: 89, state: "Boarding"})

create(RA18:Gates{number: 90, state: "Closed"})

//Airport Eindhoven

create(EIN01:Terminals{code: "EIN01", open: "yes"})

create(EIN02:Terminals{code: "EIN02", open: "yes"})

create(EIN03:Terminals{code: "EIN03", open: "yes"})

create(EIN04:Terminals{code: "EIN04", open: "no"})

create(EIN05:Terminals{code: "EIN05", open: "yes"})

create(EIN06:Terminals{code: "EIN06", open: "no"})

create(EI01:Gates{number: 91, state: "Boarding"})

create(EI02:Gates{number: 92, state: "Closed"})

create(EI03:Gates{number: 93, state: "Boarding"})

create(EI04:Gates{number: 94, state: "Closed"})

create(EI05:Gates{number: 95, state: "Boarding"})

create(EI06:Gates{number: 96, state: "Closed"})

create(EI07:Gates{number: 97, state: "Boarding"})

create(EI08:Gates{number: 98, state: "Closed"})

create(EI09:Gates{number: 99, state: "Boarding"})

create(EI10:Gates{number: 100, state: "Closed"})

create(EI11:Gates{number: 101, state: "Boarding"})

create(EI12:Gates{number: 102, state: "Closed"})

create(EI13:Gates{number: 103, state: "Boarding"})

create(EI14:Gates{number: 104, state: "Closed"})

create(EI15:Gates{number: 105, state: "Boarding"})

create(EI16:Gates{number: 106, state: "Closed"})

create(EI17:Gates{number: 107, state: "Boarding"})

create(EI18:Gates{number: 108, state: "Closed"})

//Creating Companies-----------------------------------------------------------------------------------------------------

create(KLM:Company{name: "KLM", plane\_number: "KLM01", asset: "Jonko"})

create(Lufthansa:Company{name: "Lufthansa", plane\_number: "LUFT01", asset: "Braadwurst"})

create(Ryanair:Company{name: "Ryan Air", plane\_number: "RYAN69", asset: "Booze"})

create(Transavia:Company{name: "Transavia", plane\_number: "TRANS01", asset: "Video games"})

create(Jet2:Company{name: "Jet 2", plane\_number: "JET03", asset: "IMMA FIRE MA LASAAARS"})

//Creating Flights-----------------------------------------------------------------------------------------------------

create(F001:Flights{code: "F001", plane: "Boeing 757"})

create(F002:Flights{code: "F002", plane: "Boeing 747"})

create(F003:Flights{code: "F003", plane: "Boeing 737"})

create(F004:Flights{code: "F004", plane: "Boeing 757"})

create(F005:Flights{code: "F005", plane: "Boeing 737"})

create(F006:Flights{code: "F006", plane: "Boeing 737"})

2. Including Terminals

//Including Terminals-----------------------------------------------------------------------------------------------------

MATCH

(schiphol:Airport),

(AMS01:Terminals),

(AMS02:Terminals),

(AMS03:Terminals),

(AMS04:Terminals),

(AMS05:Terminals),

(AMS06:Terminals),

(venezia\_marco\_polo:Airport),

(VMP01:Terminals),

(VMP02:Terminals),

(VMP03:Terminals),

(VMP04:Terminals),

(VMP05:Terminals),

(VMP06:Terminals),

(london\_north:Airport),

(LON01:Terminals),

(LON02:Terminals),

(LON03:Terminals),

(LON04:Terminals),

(LON05:Terminals),

(LON06:Terminals),

(london\_south:Airport),

(LOS01:Terminals),

(LOS02:Terminals),

(LOS03:Terminals),

(LOS04:Terminals),

(LOS05:Terminals),

(LOS06:Terminals),

(rome\_airport:Airport),

(ROM01:Terminals),

(ROM02:Terminals),

(ROM03:Terminals),

(ROM04:Terminals),

(ROM05:Terminals),

(ROM06:Terminals),

(airport\_eindhoven:Airport),

(EIN01:Terminals),

(EIN02:Terminals),

(EIN03:Terminals),

(EIN04:Terminals),

(EIN05:Terminals),

(EIN06:Terminals)

WHERE

schiphol.name = "Schiphol" AND

schiphol.city = "Amsterdam" AND

AMS01.code = "AMS01" AND

AMS02.code = "AMS02" AND

AMS03.code = "AMS03" AND

AMS04.code = "AMS04" AND

AMS05.code = "AMS05" AND

AMS06.code = "AMS06" AND

venezia\_marco\_polo.name = "Venezia Marco Polo" AND

venezia\_marco\_polo.city = "Venezia" AND

VMP01.code = "VMP01" AND

VMP02.code = "VMP02" AND

VMP03.code = "VMP03" AND

VMP04.code = "VMP04" AND

VMP05.code = "VMP05" AND

VMP06.code = "B" AND

london\_north.name = "London North" AND

london\_north.city = "London" AND

LON01.code = "LON01" AND

LON02.code = "LON02" AND

LON03.code = "LON03" AND

LON04.code = "LON04" AND

LON05.code = "LON05" AND

LON06.code = "LON06" AND

london\_south.name = "London South" AND

london\_south.city = "London" AND

LOS01.code = "LOS01" AND

LOS02.code = "LOS02" AND

LOS03.code = "LOS03" AND

LOS04.code = "LOS04" AND

LOS05.code = "LOS05" AND

LOS06.code = "LOS06" AND

rome\_airport.name = "Rome Airport" AND

rome\_airport.city = "Rome" AND

ROM01.code = "ROM01" AND

ROM02.code = "ROM02" AND

ROM03.code = "ROM03" AND

ROM04.code = "ROM04" AND

ROM05.code = "ROM05" AND

ROM06.code = "ROM06" AND

airport\_eindhoven.name = "Airport Eindhoven" AND

airport\_eindhoven.city = "Eindhoven" AND

EIN01.code = "EIN01" AND

EIN02.code = "EIN02" AND

EIN03.code = "EIN03" AND

EIN04.code = "EIN04" AND

EIN05.code = "EIN05" AND

EIN06.code = "EIN06"

CREATE

(schiphol)-[i1:Includes]->(AMS01),

(schiphol)-[i2:Includes]->(AMS02),

(schiphol)-[i3:Includes]->(AMS03),

(schiphol)-[i4:Includes]->(AMS04),

(schiphol)-[i5:Includes]->(AMS05),

(schiphol)-[i6:Includes]->(AMS06),

(venezia\_marco\_polo)-[i7:Includes]->(VMP01),

(venezia\_marco\_polo)-[i8:Includes]->(VMP02),

(venezia\_marco\_polo)-[i9:Includes]->(VMP03),

(venezia\_marco\_polo)-[i10:Includes]->(VMP04),

(venezia\_marco\_polo)-[i11:Includes]->(VMP05),

(venezia\_marco\_polo)-[i12:Includes]->(VMP06),

(london\_north)-[i13:Includes]->(LON01),

(london\_north)-[i14:Includes]->(LON02),

(london\_north)-[i15:Includes]->(LON03),

(london\_north)-[i16:Includes]->(LON04),

(london\_north)-[i17:Includes]->(LON05),

(london\_north)-[i18:Includes]->(LON06),

(london\_south)-[i19:Includes]->(LOS01),

(london\_south)-[i20:Includes]->(LOS02),

(london\_south)-[i21:Includes]->(LOS03),

(london\_south)-[i22:Includes]->(LOS04),

(london\_south)-[i23:Includes]->(LOS05),

(london\_south)-[i24:Includes]->(LOS06),

(rome\_airport)-[i25:Includes]->(ROM01),

(rome\_airport)-[i26:Includes]->(ROM02),

(rome\_airport)-[i27:Includes]->(ROM03),

(rome\_airport)-[i28:Includes]->(ROM04),

(rome\_airport)-[i29:Includes]->(ROM05),

(rome\_airport)-[i30:Includes]->(ROM06),

(airport\_eindhoven)-[i31:Includes]->(EIN01),

(airport\_eindhoven)-[i32:Includes]->(EIN02),

(airport\_eindhoven)-[i33:Includes]->(EIN03),

(airport\_eindhoven)-[i34:Includes]->(EIN04),

(airport\_eindhoven)-[i35:Includes]->(EIN05),

(airport\_eindhoven)-[i36:Includes]->(EIN06)

return

schiphol, AMS01, AMS02, AMS03, AMS04, AMS05, AMS06,

venezia\_marco\_polo, VMP01, VMP02, VMP03, VMP04, VMP05, VMP06,

london\_north, LON01, LON02, LON03, LON04, LON05, LON06,

london\_south, LOS01, LOS02, LOS03, LOS04, LOS05, LOS06,

rome\_airport, ROM01, ROM02, ROM03, ROM04, ROM05, ROM06,

airport\_eindhoven, EIN01, EIN02, EIN03, EIN04, EIN05, EIN06

3. Gates Belongs

//Gates Belongs-----------------------------------------------------------------------------------------------------

MATCH

(AMS01:Terminals),

(AMS02:Terminals),

(AMS03:Terminals),

(AMS04:Terminals),

(AMS05:Terminals),

(AMS06:Terminals),

(SH01:Gates),

(SH02:Gates),

(SH03:Gates),

(SH04:Gates),

(SH05:Gates),

(SH06:Gates),

(SH07:Gates),

(SH08:Gates),

(SH09:Gates),

(SH10:Gates),

(SH11:Gates),

(SH12:Gates),

(SH13:Gates),

(SH14:Gates),

(SH15:Gates),

(SH16:Gates),

(SH17:Gates),

(SH18:Gates),

(VMP01:Terminals),

(VMP02:Terminals),

(VMP03:Terminals),

(VMP04:Terminals),

(VMP05:Terminals),

(VMP06:Terminals),

(VM01:Gates),

(VM02:Gates),

(VM03:Gates),

(VM04:Gates),

(VM05:Gates),

(VM06:Gates),

(VM07:Gates),

(VM08:Gates),

(VM09:Gates),

(VM10:Gates),

(VM11:Gates),

(VM12:Gates),

(VM13:Gates),

(VM14:Gates),

(VM15:Gates),

(VM16:Gates),

(VM17:Gates),

(VM18:Gates),

(LON01:Terminals),

(LON02:Terminals),

(LON03:Terminals),

(LON04:Terminals),

(LON05:Terminals),

(LON06:Terminals),

(LN01:Gates),

(LN02:Gates),

(LN03:Gates),

(LN04:Gates),

(LN05:Gates),

(LN06:Gates),

(LN07:Gates),

(LN08:Gates),

(LN09:Gates),

(LN10:Gates),

(LN11:Gates),

(LN12:Gates),

(LN13:Gates),

(LN14:Gates),

(LN15:Gates),

(LN16:Gates),

(LN17:Gates),

(LN18:Gates),

(LOS01:Terminals),

(LOS02:Terminals),

(LOS03:Terminals),

(LOS04:Terminals),

(LOS05:Terminals),

(LOS06:Terminals),

(LS01:Gates),

(LS02:Gates),

(LS03:Gates),

(LS04:Gates),

(LS05:Gates),

(LS06:Gates),

(LS07:Gates),

(LS08:Gates),

(LS09:Gates),

(LS10:Gates),

(LS11:Gates),

(LS12:Gates),

(LS13:Gates),

(LS14:Gates),

(LS15:Gates),

(LS16:Gates),

(LS17:Gates),

(LS18:Gates),

(ROM01:Terminals),

(ROM02:Terminals),

(ROM03:Terminals),

(ROM04:Terminals),

(ROM05:Terminals),

(ROM06:Terminals),

(RA01:Gates),

(RA02:Gates),

(RA03:Gates),

(RA04:Gates),

(RA05:Gates),

(RA06:Gates),

(RA07:Gates),

(RA08:Gates),

(RA09:Gates),

(RA10:Gates),

(RA11:Gates),

(RA12:Gates),

(RA13:Gates),

(RA14:Gates),

(RA15:Gates),

(RA16:Gates),

(RA17:Gates),

(RA18:Gates),

(EIN01:Terminals),

(EIN02:Terminals),

(EIN03:Terminals),

(EIN04:Terminals),

(EIN05:Terminals),

(EIN06:Terminals),

(EI01:Gates),

(EI02:Gates),

(EI03:Gates),

(EI04:Gates),

(EI05:Gates),

(EI06:Gates),

(EI07:Gates),

(EI08:Gates),

(EI09:Gates),

(EI10:Gates),

(EI11:Gates),

(EI12:Gates),

(EI13:Gates),

(EI14:Gates),

(EI15:Gates),

(EI16:Gates),

(EI17:Gates),

(EI18:Gates)

WHERE

AMS01.code = "AMS01" AND

AMS02.code = "AMS02" AND

AMS03.code = "AMS03" AND

AMS04.code = "AMS04" AND

AMS05.code = "AMS05" AND

AMS06.code = "AMS06" AND

SH01.number = 1 AND

SH02.number = 2 AND

SH03.number = 3 AND

SH04.number = 4 AND

SH05.number = 5 AND

SH06.number = 6 AND

SH07.number = 7 AND

SH08.number = 8 AND

SH09.number = 9 AND

SH10.number = 10 AND

SH11.number = 11 AND

SH12.number = 12 AND

SH13.number = 13 AND

SH14.number = 14 AND

SH15.number = 15 AND

SH16.number = 16 AND

SH17.number = 17 AND

SH18.number = 18 AND

VMP01.code = "VMP01" AND

VMP02.code = "VMP02" AND

VMP03.code = "VMP03" AND

VMP04.code = "VMP04" AND

VMP05.code = "VMP05" AND

VMP06.code = "B" AND

VM01.number = 19 AND

VM02.number = 20 AND

VM03.number = 21 AND

VM04.number = 22 AND

VM05.number = 23 AND

VM06.number = 24 AND

VM07.number = 25 AND

VM08.number = 26 AND

VM09.number = 27 AND

VM10.number = 28 AND

VM11.number = 29 AND

VM12.number = 30 AND

VM13.number = 31 AND

VM14.number = 32 AND

VM15.number = 33 AND

VM16.number = 34 AND

VM17.number = 35 AND

VM18.number = 36 AND

LON01.code = "LON01" AND

LON02.code = "LON02" AND

LON03.code = "LON03" AND

LON04.code = "LON04" AND

LON05.code = "LON05" AND

LON06.code = "LON06" AND

LN01.number = 37 AND

LN02.number = 38 AND

LN03.number = 39 AND

LN04.number = 40 AND

LN05.number = 41 AND

LN06.number = 42 AND

LN07.number = 43 AND

LN08.number = 44 AND

LN09.number = 45 AND

LN10.number = 46 AND

LN11.number = 47 AND

LN12.number = 48 AND

LN13.number = 49 AND

LN14.number = 50 AND

LN15.number = 51 AND

LN16.number = 52 AND

LN17.number = 53 AND

LN18.number = 54 AND

LOS01.code = "LOS01" AND

LOS02.code = "LOS02" AND

LOS03.code = "LOS03" AND

LOS04.code = "LOS04" AND

LOS05.code = "LOS05" AND

LOS06.code = "LOS06" AND

LS01.number = 55 AND

LS02.number = 56 AND

LS03.number = 57 AND

LS04.number = 58 AND

LS05.number = 59 AND

LS06.number = 60 AND

LS07.number = 61 AND

LS08.number = 62 AND

LS09.number = 63 AND

LS10.number = 64 AND

LS11.number = 65 AND

LS12.number = 66 AND

LS13.number = 67 AND

LS14.number = 68 AND

LS15.number = 69 AND

LS16.number = 70 AND

LS17.number = 71 AND

LS18.number = 72 AND

ROM01.code = "ROM01" AND

ROM02.code = "ROM02" AND

ROM03.code = "ROM03" AND

ROM04.code = "ROM04" AND

ROM05.code = "ROM05" AND

ROM06.code = "ROM06" AND

RA01.number = 73 AND

RA02.number = 74 AND

RA03.number = 75 AND

RA04.number = 76 AND

RA05.number = 77 AND

RA06.number = 78 AND

RA07.number = 79 AND

RA08.number = 80 AND

RA09.number = 81 AND

RA10.number = 82 AND

RA11.number = 83 AND

RA12.number = 84 AND

RA13.number = 85 AND

RA14.number = 86 AND

RA15.number = 87 AND

RA16.number = 88 AND

RA17.number = 89 AND

RA18.number = 90 AND

EIN01.code = "EIN01" AND

EIN02.code = "EIN02" AND

EIN03.code = "EIN03" AND

EIN04.code = "EIN04" AND

EIN05.code = "EIN05" AND

EIN06.code = "EIN06" AND

EI01.number = 91 AND

EI02.number = 92 AND

EI03.number = 93 AND

EI04.number = 94 AND

EI05.number = 95 AND

EI06.number = 96 AND

EI07.number = 97 AND

EI08.number = 98 AND

EI09.number = 99 AND

EI10.number = 100 AND

EI11.number = 101 AND

EI12.number = 102 AND

EI13.number = 103 AND

EI14.number = 104 AND

EI15.number = 105 AND

EI16.number = 106 AND

EI17.number = 107 AND

EI18.number = 108

CREATE

(SH01)-[b1:Belongs]->(AMS01),

(SH02)-[b2:Belongs]->(AMS01),

(SH03)-[b3:Belongs]->(AMS01),

(SH04)-[b4:Belongs]->(AMS02),

(SH05)-[b5:Belongs]->(AMS02),

(SH06)-[b6:Belongs]->(AMS02),

(SH07)-[b7:Belongs]->(AMS03),

(SH08)-[b8:Belongs]->(AMS03),

(SH09)-[b9:Belongs]->(AMS03),

(SH10)-[b10:Belongs]->(AMS04),

(SH11)-[b11:Belongs]->(AMS04),

(SH12)-[b12:Belongs]->(AMS04),

(SH13)-[b13:Belongs]->(AMS05),

(SH14)-[b14:Belongs]->(AMS05),

(SH15)-[b15:Belongs]->(AMS05),

(SH16)-[b16:Belongs]->(AMS06),

(SH17)-[b17:Belongs]->(AMS06),

(SH18)-[b18:Belongs]->(AMS06),

//=============================

(VM01)-[b19:Belongs]->(VMP01),

(VM02)-[b20:Belongs]->(VMP01),

(VM03)-[b21:Belongs]->(VMP01),

(VM04)-[b22:Belongs]->(VMP02),

(VM05)-[b23:Belongs]->(VMP02),

(VM06)-[b24:Belongs]->(VMP02),

(VM07)-[b25:Belongs]->(VMP03),

(VM08)-[b26:Belongs]->(VMP03),

(VM09)-[b27:Belongs]->(VMP03),

(VM10)-[b28:Belongs]->(VMP04),

(VM11)-[b29:Belongs]->(VMP04),

(VM12)-[b30:Belongs]->(VMP04),

(VM13)-[b31:Belongs]->(VMP05),

(VM14)-[b32:Belongs]->(VMP05),

(VM15)-[b33:Belongs]->(VMP05),

(VM16)-[b34:Belongs]->(VMP06),

(VM17)-[b35:Belongs]->(VMP06),

(VM18)-[b36:Belongs]->(VMP06),

//=============================

(LN01)-[b37:Belongs]->(LON01),

(LN02)-[b38:Belongs]->(LON01),

(LN03)-[b39:Belongs]->(LON01),

(LN04)-[b40:Belongs]->(LON02),

(LN05)-[b41:Belongs]->(LON02),

(LN06)-[b42:Belongs]->(LON02),

(LN07)-[b43:Belongs]->(LON03),

(LN08)-[b44:Belongs]->(LON03),

(LN09)-[b45:Belongs]->(LON03),

(LN10)-[b46:Belongs]->(LON04),

(LN11)-[b47:Belongs]->(LON04),

(LN12)-[b48:Belongs]->(LON04),

(LN13)-[b49:Belongs]->(LON05),

(LN14)-[b50:Belongs]->(LON05),

(LN15)-[b51:Belongs]->(LON05),

(LN16)-[b52:Belongs]->(LON06),

(LN17)-[b53:Belongs]->(LON06),

(LN18)-[b54:Belongs]->(LON06),

//=============================

(LS01)-[b55:Belongs]->(LOS01),

(LS02)-[b56:Belongs]->(LOS01),

(LS03)-[b57:Belongs]->(LOS01),

(LS04)-[b58:Belongs]->(LOS02),

(LS05)-[b59:Belongs]->(LOS02),

(LS06)-[b60:Belongs]->(LOS02),

(LS07)-[b61:Belongs]->(LOS03),

(LS08)-[b62:Belongs]->(LOS03),

(LS09)-[b63:Belongs]->(LOS03),

(LS10)-[b64:Belongs]->(LOS04),

(LS11)-[b65:Belongs]->(LOS04),

(LS12)-[b66:Belongs]->(LOS04),

(LS13)-[b67:Belongs]->(LOS05),

(LS14)-[b68:Belongs]->(LOS05),

(LS15)-[b69:Belongs]->(LOS05),

(LS16)-[b70:Belongs]->(LOS06),

(LS17)-[b71:Belongs]->(LOS06),

(LS18)-[b72:Belongs]->(LOS06),

//=============================

(RA01)-[b73:Belongs]->(ROM01),

(RA02)-[b74:Belongs]->(ROM01),

(RA03)-[b75:Belongs]->(ROM01),

(RA04)-[b76:Belongs]->(ROM02),

(RA05)-[b77:Belongs]->(ROM02),

(RA06)-[b78:Belongs]->(ROM02),

(RA07)-[b79:Belongs]->(ROM03),

(RA08)-[b80:Belongs]->(ROM03),

(RA09)-[b81:Belongs]->(ROM03),

(RA10)-[b82:Belongs]->(ROM04),

(RA11)-[b83:Belongs]->(ROM04),

(RA12)-[b84:Belongs]->(ROM04),

(RA13)-[b85:Belongs]->(ROM05),

(RA14)-[b86:Belongs]->(ROM05),

(RA15)-[b87:Belongs]->(ROM05),

(RA16)-[b88:Belongs]->(ROM06),

(RA17)-[b89:Belongs]->(ROM06),

(RA18)-[b90:Belongs]->(ROM06),

//=============================

(EI01)-[b91:Belongs]->(EIN01),

(EI02)-[b92:Belongs]->(EIN01),

(EI03)-[b93:Belongs]->(EIN01),

(EI04)-[b94:Belongs]->(EIN02),

(EI05)-[b95:Belongs]->(EIN02),

(EI06)-[b96:Belongs]->(EIN02),

(EI07)-[b97:Belongs]->(EIN03),

(EI08)-[b98:Belongs]->(EIN03),

(EI09)-[b99:Belongs]->(EIN03),

(EI10)-[b100:Belongs]->(EIN04),

(EI11)-[b101:Belongs]->(EIN04),

(EI12)-[b102:Belongs]->(EIN04),

(EI13)-[b103:Belongs]->(EIN05),

(EI14)-[b104:Belongs]->(EIN05),

(EI15)-[b105:Belongs]->(EIN05),

(EI16)-[b106:Belongs]->(EIN06),

(EI17)-[b107:Belongs]->(EIN06),

(EI18)-[b108:Belongs]->(EIN06)

RETURN

AMS01, AMS02, AMS03, AMS04, AMS05, AMS06,

SH01, SH02, SH03, SH04, SH05, SH06, SH07, SH08, SH09, SH10, SH11, SH12, SH13, SH14, SH15, SH16, SH17, SH18,

VMP01, VMP02, VMP03, VMP04, VMP05, VMP06,

VM01, VM02, VM03, VM04, VM05, VM06, VM07, VM08, VM09, VM10, VM11, VM12, VM13, VM14, VM15, VM16, VM17, VM18,

LON01, LON02, LON03, LON04, LON05, LON06,

LN01, LN02, LN03, LN04, LN05, LN06, LN07, LN08, LN09, LN10, LN11, LN12, LN13, LN14, LN15, LN16, LN17, LN18,

LOS01, LOS02, LOS03, LOS04, LOS05, LOS06,

LS01, LS02, LS03, LS04, LS05, LS06, LS07, LS08, LS09, LS10, LS11, LS12, LS13, LS14, LS15, LS16, LS17, LS18,

ROM01, ROM02, ROM03, ROM04, ROM05, ROM06,

RA01, RA02, RA03, RA04, RA05, RA06, RA07, RA08, RA09, RA10, RA11, RA12, RA13, RA14, RA15, RA16, RA17, RA18,

EIN01, EIN02, EIN03, EIN04, EIN05, EIN06,

EI01, EI02, EI03, EI04, EI05, EI06, EI07, EI08, EI09, EI10, EI11, EI12, EI13, EI14, EI15, EI16, EI17, EI18

4. Travels

MATCH

(schiphol:Airport),

(venezia\_marco\_polo:Airport),

(london\_north:Airport),

(london\_south:Airport),

(rome\_airport:Airport),

(airport\_eindhoven:Airport),

(F001:Flights),

(F002:Flights),

(F003:Flights),

(F004:Flights),

(F005:Flights),

(F006:Flights)

WHERE

schiphol.name = "Schiphol" AND

schiphol.city = "Amsterdam" AND

venezia\_marco\_polo.name = "Venezia Marco Polo" AND

venezia\_marco\_polo.city = "Venezia" AND

london\_north.name = "London North" AND

london\_north.city = "London" AND

london\_south.name = "London South" AND

london\_south.city = "London" AND

rome\_airport.name = "Rome Airport" AND

rome\_airport.city = "Rome" AND

airport\_eindhoven.name = "Airport Eindhoven" AND

airport\_eindhoven.city = "Eindhoven" AND

F001.code = "F001" AND

F002.code = "F002" AND

F003.code = "F003" AND

F004.code = "F004" AND

F005.code = "F005" AND

F006.code = "F006"

CREATE

(F001)-[t1:Travels{from: "Rome Airport", distance: 600, time: 300}]->(schiphol),

(F002)-[t2:Travels{from: "Schiphol", distance: 500, time: 1600}]->(venezia\_marco\_polo),

(F003)-[t3:Travels{from: "London North", distance: 900, time: 300}]->(rome\_airport),

(F004)-[t4:Travels{from: "Schiphol", distance: 800, time: 1600}]->(rome\_airport),

(F005)-[t5:Travels{from: "Rome Airport", distance: 9001, time: 1200}]->(london\_south),

(F006)-[t6:Travels{from: "Venezia Marco Polo", distance: 420, time: 2000}]->(airport\_eindhoven)

RETURN

t1, t2, t3, t4, t5, t6

5. Based and Sells

MATCH

(KLM:Company),

(Lufthansa:Company),

(Ryanair:Company),

(Transavia:Company),

(Jet2:Company),

(schiphol:Airport),

(venezia\_marco\_polo:Airport),

(london\_north:Airport),

(london\_south:Airport),

(rome\_airport:Airport),

(airport\_eindhoven:Airport),

(F001:Flights),

(F002:Flights),

(F003:Flights),

(F004:Flights),

(F005:Flights),

(F006:Flights)

WHERE

KLM.name = "KLM" AND

Lufthansa.name = "Lufthansa" AND

Ryanair.name = "Ryan Air" AND

Transavia.name = "Transavia" AND

Jet2.name = "Jet 2" AND

schiphol.name = "Schiphol" AND

schiphol.city = "Amsterdam" AND

venezia\_marco\_polo.name = "Venezia Marco Polo" AND

venezia\_marco\_polo.city = "Venezia" AND

london\_north.name = "London North" AND

london\_north.city = "London" AND

london\_south.name = "London South" AND

london\_south.city = "London" AND

rome\_airport.name = "Rome Airport" AND

rome\_airport.city = "Rome" AND

airport\_eindhoven.name = "Airport Eindhoven" AND

airport\_eindhoven.city = "Eindhoven" AND

F001.code = "F001" AND

F002.code = "F002" AND

F003.code = "F003" AND

F004.code = "F004" AND

F005.code = "F005" AND

F006.code = "F006"

CREATE

//Based

(KLM)-[ba1:Based{rent: 16000, since: 1870}]->(schiphol),

(KLM)-[ba2:Based{rent: 14000, since: 1900}]->(airport\_eindhoven),

(Lufthansa)-[ba3:Based{rent: 25000, since: 1880}]->(london\_north),

(Ryanair)-[ba4:Based{rent:30000, since: 1900}]->(rome\_airport),

(Transavia)-[ba5:Based{rent:30000, since: 1920}]->(rome\_airport),

(Transavia)-[ba6:Based{rent:20000, since: 1870}]->(venezia\_marco\_polo),

(Jet2)-[ba7:Based{rent:15000, since: 1950}]->(london\_south),

//Sells

(Ryanair)-[s1:Sells{price:90}]->(F001),

(KLM)-[s2:Sells{price:200}]->(F002),

(Lufthansa)-[s3:Sells{price: 150}]->(F003),

(KLM)-[s4:Sells{price:900}]->(F004),

(Transavia)-[s5:Sells{price:50}]->(F005),

(Transavia)-[s6:Sells{price:200}]->(F006)

RETURN

ba1, ba2, ba3, ba4, ba5, ba6, ba7,

s1, s2, s3, s4, s5, s6

6. Queries

// 1. Find the name and the capacity of all 'Large' airports.

MATCH

(n:Airport)

WHERE

n.size = "Large"

Return

n.name, n.capacity;

// 2. Find the total capacity of the airports in the same city. Output the name and the capacity.

MATCH

(n:Airport)

WHERE

n.city = n.city

Return

n.city, sum(n.capacity);

// 3. Find the name of the airport with the highest capacity. Output the name and the capacity.

MATCH

(n:Airport)

Return

n.name, n.capacity

ORDER BY n.capacity DESC LIMIT 1;

// 4. Find all the opened terminals in 'Schiphol'. Output the code.

MATCH

(Schiphol:Airport)-[i:Includes]->(n:Terminals)

WHERE

Schiphol.name = "Schiphol" AND

Schiphol.city = "Amsterdam" AND

n.open = "yes"

Return

n.code;

// 5. Find all the terminals of the airports in 'London'. Output the code.

MATCH

(c:Airport)-[i:Includes]->(n:Terminals)

WHERE

c.city = "London"

Return

n.code;

// 6. Find all the gates that are boarding in 'Venezia Marco Polo' for Terminal 'B'. Print the number and the state.

MATCH

(venezia\_marco\_polo:Airport)-[i:Includes]->(n:Terminals),

(g:Gates)-[b:Belongs]->(n:Terminals)

WHERE

venezia\_marco\_polo.name = "Venezia Marco Polo" AND

venezia\_marco\_polo.city = "Venezia" AND

n.code = "B" AND

g.state = "Boarding"

Return

g.number, g.state;

// 7. Find all the flights landing in 'Rome' for 'Lufthansa' and 'KLM'. Print the code and the plane.

MATCH

(c:Company)-[s1:Sells]->(f:Flights),

(f:Flights)-[t:Travels]->(a:Airport)

WHERE

c.name = "KLM" AND

a.city = "Rome"

OR

c.name = "Lufthansa" AND

a.city = "Rome"

Return

f.code, f.plane;

// 8. For each company find the amount of flights goint to 'Rome' leaving before 15:00. Print the company name and the total of flights.

MATCH

(c:Company)-[s1:Sells]->(f:Flights),

(f:Flights)-[t:Travels]->(a:Airport)

WHERE

a.city = "Rome" AND

t.time < 1500

Return

c.name, count(f:Flights);