**Creating the database using cypher (Codes only)**

create

(`0` :Book {isbn:"0618260307",title:"The Hobbit",pages:"310",publishyear:"1937",noofcopies:"10"}),

(`1` :Book {isbn:"0393310728",title:"How to Lie with Statistics",pages:"128",publishyear:"1954",noofcopies:"3"}),

(`2` :Book {isbn:"0908606664",title:"Slinky Malinki",pages:"32",publishyear:"1990",noofcopies:"4"}),

(`3` :Book {isbn:"0908783116",title:"Mechanical Harry",pages:"28",publishyear:"1996",noofcopies:"5"}),

(`4` :Book {isbn:"0908606273",title:"My Cat Likes to Hide in Boxes",pages:"55",publishyear:"1973",noofcopies:"7"}),

(`500` :Genre {genre1:"fantasy"}) ,

(`501` :Genre {genre1:"Novel"}) ,

(`502` :Genre {genre1:"general"}),

(`503` :Genre {genre1:"statistics"}),

(`504` :Genre {genre1:"mathematics"}),

(`505` :Genre {genre1:"fiction"}) ,

(`506` :Genre {genre1:"Children's literature"}) ,

(`507` :Genre {genre1:"graphic"}) ,

(`508` :Genre {genre1:"Romance"}) ,

(`509` :Genre {genre1:"Adventure"}) ,

(`510` :Genre {genre1:"Apocalyptic"}) ,

(`511` :Genre {genre1:"Mystery"}) ,

(`512` :Genre {genre1:"Thriller"}) ,

(`10` :Customer {num\_item:4,rfirstname:"Bob",rlastname:"Dylan",registereddate:"20-may-2019",raddress1:"133",raddress2:"christchurch",rcity:"Bournemouth",rpostcode:"BH14RF"}),

(`11` :Customer {num\_item:0,rfirstname:"Adam",rlastname:"John",registereddate:"20-may-2019",raddress1:"3s",raddress2:"Boscombe",rcity:"Bournemouth",rpostcode:"BH1RF"}),

(`12` :Customer {num\_item:1,rfirstname:"John",rlastname:"Snow",registereddate:"12-oct-2019",raddress1:"1E",raddress2:"winton road",rcity:"London",rpostcode:"L14RF"}),

(`13` :Customer {num\_item:2,rfirstname:"Charlse",rlastname:"Pop",registereddate:"25-sept-2019",raddress1:"88b",raddress2:"lansdowne",rcity:"Bournemouth",rpostcode:"BH1DS"}),

(`14` :Customer {num\_item:3,rfirstname:"Christ",rlastname:"Tom",registereddate:"02-aug-2019",raddress1:"1d",raddress2:"sunbanks",rcity:"Chelse",rpostcode:"CH1RB"}),

(`15` :Author {firstname:"J",lastname:"R. R.",surname:"Tolkien"}) ,

(`16` :Author {firstname:"W.",lastname:"W.",surname:"Norton"}) ,

(`17` :Author {firstname:"Mallinson",lastname:"",surname:"Rendel"}) ,

(`18` :Author {firstname:"Bob",lastname:"",surname:"Kerr"}) ,

(`19` :Author {firstname:"Eve",lastname:"",surname:"Sutton"}) ,

(`20` :Author {firstname:"Lynley",lastname:"",surname:"Dodd"}) ,

(`21` :Ebook {ebooktitle:"The Hunger Games",ebookpages:"372",ebookpublishyear:"2008",url:"https://www.goodreads.com/book/show/2767052-the-hunger-games"}) ,

(`22` :Ebook {ebooktitle:"The Girl on the Train",ebookpages:"320",ebookpublishyear:"2015",url:"https://www.goodreads.com/book/show/22557272-the-girl-on-the-train"}),

(`23` :Ebook {ebooktitle:"Divergent ",ebookpages:"487",ebookpublishyear:"2011",url:"https://www.goodreads.com/book/show/13335037-divergent"}),

(`24` :Ebook {ebooktitle:"The Fault in Our Stars",ebookpages:"352",ebookpublishyear:"2013",url:"https://www.goodreads.com/book/show/11870085-the-fault-in-our-stars"}),

(`25` :Ebook {ebooktitle:"The Martian ",ebookpages:"369",ebookpublishyear:"2011",url:"https://www.goodreads.com/book/show/18007564-the-martian"}),

(`26` :Author {firstname:" Suzanne",lastname:"",surname:"Collins"}) ,

(`27` :Author {firstname:"Paula",lastname:"",surname:"Paula Hawkins"}) ,

(`28` :Author {firstname:" Veronica",lastname:"",surname:"Roth"}) ,

(`29` :Author {firstname:"John",lastname:"",surname:"Green"}) ,

(`30` :Author {firstname:" Andy",lastname:"",surname:" Andy Weir"}) ,

(`31` :Magazine {magazinetitle:"All About Space",magazineissuenumber:"12131/2020",totalnoofcopies:"13"}) ,

(`32` :Magazine {magazinetitle:"Science + Nature",magazineissuenumber:"18671/2020",totalnoofcopies:"13"}) ,

(`33` :Magazine {magazinetitle:"BBC Science Focus",magazineissuenumber:"11121/2020",totalnoofcopies:"9"}) ,

(`34` :Magazine {magazinetitle:"New Scientist",magazineissuenumber:"10087/2020",totalnoofcopies:"7"}) ,

(`35` :Magazine {magazinetitle:"Sky at Night",magazineissuenumber:"100767/2020",totalnoofcopies:"5"}) ,

(`0`)-[:`bookgenre` ]->(`500`),

(`0`)-[:`bookgenre` ]->(`501`),

(`0`)-[:`bookgenre` ]->(`509`),

(`1`)-[:`bookgenre` ]->(`502`),

(`1`)-[:`bookgenre` ]->(`503`),

(`1`)-[:`bookgenre` ]->(`504`),

(`2`)-[:`bookgenre` ]->(`500`),

(`2`)-[:`bookgenre` ]->(`501`),

(`2`)-[:`bookgenre` ]->(`506`),

(`3`)-[:`bookgenre` ]->(`505`),

(`3`)-[:`bookgenre` ]->(`506`),

(`3`)-[:`bookgenre` ]->(`507`),

(`4`)-[:`bookgenre` ]->(`505`),

(`4`)-[:`bookgenre` ]->(`506`),

(`21`)-[:`ebookgenre` ]->(`500`),

(`21`)-[:`ebookgenre` ]->(`501`),

(`21`)-[:`ebookgenre` ]->(`505`),

(`21`)-[:`ebookgenre` ]->(`510`),

(`22`)-[:`ebookgenre` ]->(`505`),

(`22`)-[:`ebookgenre` ]->(`511`),

(`22`)-[:`ebookgenre` ]->(`512`),

(`23`)-[:`ebookgenre` ]->(`500`),

(`23`)-[:`ebookgenre` ]->(`505`),

(`23`)-[:`ebookgenre` ]->(`511`),

(`24`)-[:`ebookgenre` ]->(`505`),

(`24`)-[:`ebookgenre` ]->(`508`),

(`25`)-[:`ebookgenre` ]->(`512`),

(`25`)-[:`ebookgenre` ]->(`505`),

(`0`)-[:`writtenby` ]->(`15`),

(`1`)-[:`writtenby` ]->(`16`),

(`2`)-[:`writtenby` ]->(`17`),

(`3`)-[:`writtenby` ]->(`18`),

(`4`)-[:`writtenby` ]->(`19`),

(`4`)-[:`writtenby` ]->(`20`),

(`21`)-[:`writtenby` ]->(`26`),

(`22`)-[:`writtenby` ]->(`27`),

(`23`)-[:`writtenby` ]->(`28`),

(`24`)-[:`writtenby` ]->(`29`),

(`25`)-[:`writtenby` ]->(`30`),

(`10`)-[:`downloads` {downloadid:"de001",downloaddate:"20-may-2020"}]->(`21`),

(`13`)-[:`downloads` {downloadid:"de002",downloaddate:"02-may-2020"}]->(`23`),

(`14`)-[:`downloads` {downloadid:"de003",downloaddate:"02-apr-2020"}]->(`24`),

(`0`)-[:`Borrowedby` {borrowdate:"17-may-2020",returneddate:"16-jun-2020",maxborrowdate:"18-jun-2020"}]->(`10`),

(`1`)-[:`Borrowedby` {borrowdate:"13-may-2020",returneddate:"13-jun-2020",maxborrowdate:"14-jun-2020"}]->(`11`),

(`2`)-[:`Borrowedby` {borrowdate:"03-may-2020",returneddate:"03-jun-2020",maxborrowdate:"05-jun-2020"}]->(`12`),

(`3`)-[:`Borrowedby` {borrowdate:"07-may-2020",returneddate:"09-jun-2020",maxborrowdate:"12-jun-2020"}]->(`13`),

(`14`)-[:`reservationlist` {reservationdate:"13-may2020"}]->(`0`),

(`11`)-[:`reservationlist` {reservationdate:"13-may2020"}]->(`3`),

(`13`)-[:`reservedmagazine` {reservationdate:"01-may-2020"}]->(`31`),

(`12`)-[:`reservedmagazine` {reservationdate:"09-may-2020"}]->(`33`),

(`11`)-[:`reservedmagazine` {reservationdate:"04-may-2020"}]->(`34`),

(`32`)-[:`Borrowedmag` {mborrowdate:"12-april-2020",mreturneddate:"12-may-2020",mmaxborrowdate:"14-may-2020"}]->(`10`),

(`34`)-[:`Borrowedmag` {mborrowdate:"02-april-2020",mreturneddate:"07-may-2020",mmaxborrowdate:"09-may-2020"}]->(`14`)

User cases

1) **List of customers who live in Bournemouth.**

match (c:Customer)

where c.rcity = "Bournemouth"

return c

2) **Return the books borrowed by Adam**

MATCH (Customer {rfirstname:'Adam' })-->(Book) RETURN Book.title

3) **Genre of book The Hobbit**

match n=

(Book)-[:bookgenre]->(genre)

where Book.title="The Hobbit"

return n

4) **Show the reservation list of Adam**

match

n=(p:Customer)-[f:reservationlist]->(:Book)

where p.rfirstname= "Adam"

return n,f.reservationdate

5) **List of ebooks that are in fiction genre**

match

w=(:Ebook)-[:ebookgenre]->(s:Genre)<-[:bookgenre]-(:Book)

where s.genre1="fiction"

return w

6) **List of all customers and number of items borrowed in descending order**

match

(c:Customer)

return c.num\_item,c.rfirstname

order by c.num\_item desc

7) **To see the author name starts with J**

match

(a:Author)

where a.firstname starts with "J"

return a.firstname,a.lastname,a.surname