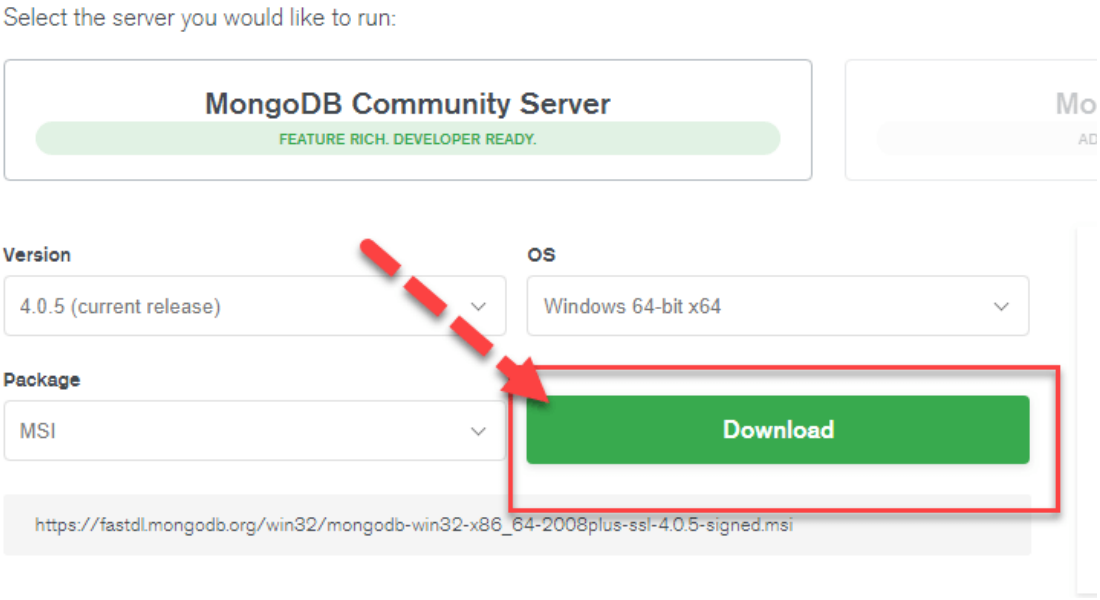
Practical :4

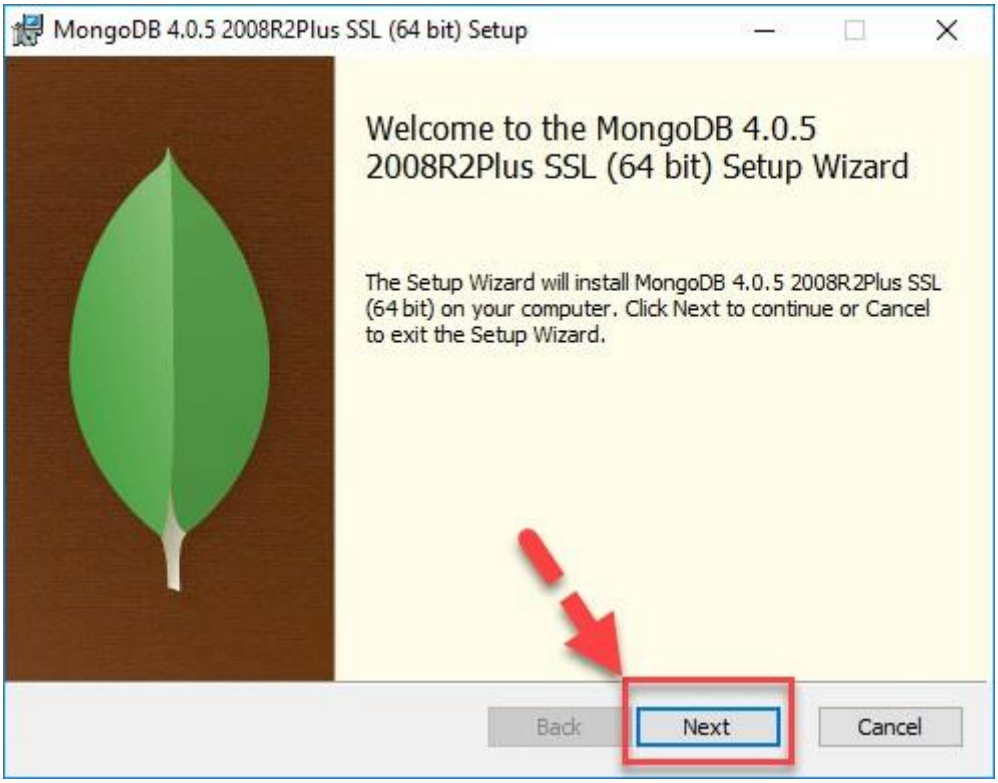
Aim: Implement an application that stores big data in Hbase / MongoDB and manipulate it using R / Python

Requirement:
a. Python Package: PyMongo
b. Mongo Database

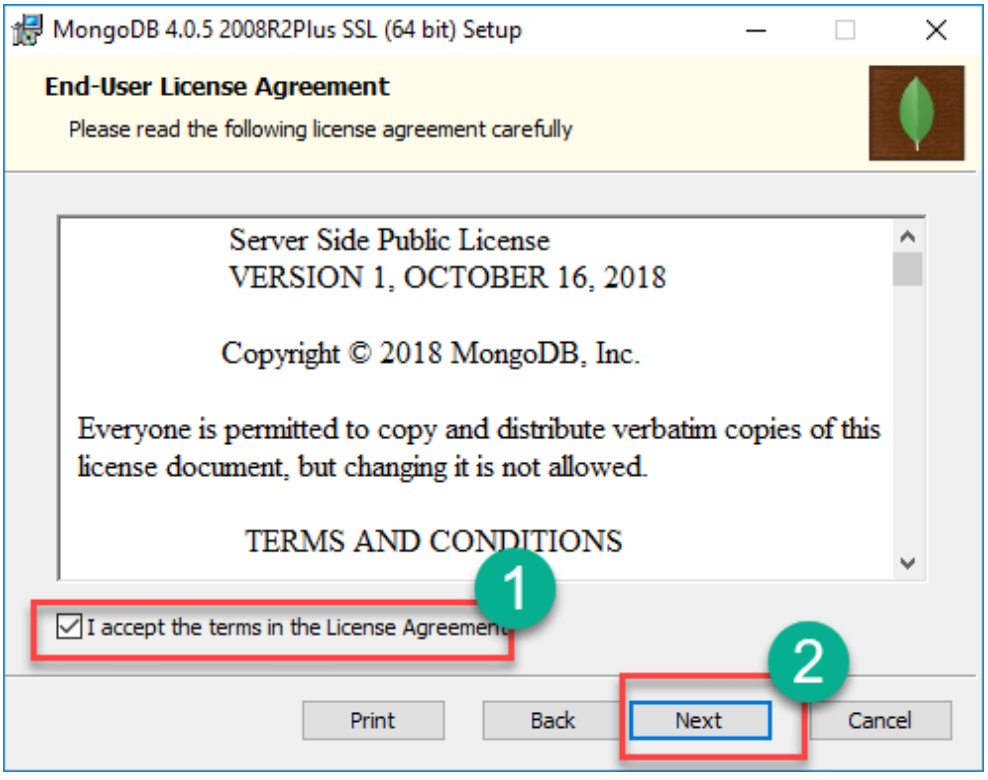
Step A: Install Mongo database
Step 1) Go to (https://www.mongodb.com/download-center/community) and Download MongoDB Community Server. We will install the 64-bit version for Windows.



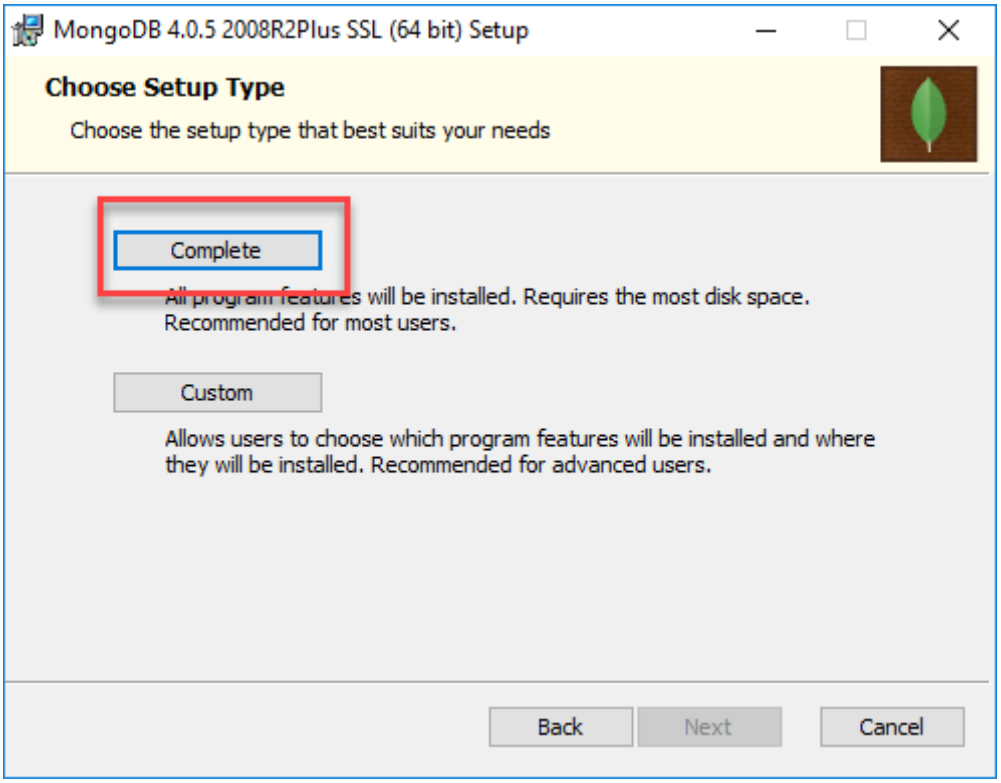
Step 2) Once download is complete open the msi file. Click Next in the start up screen



Step 3)
1. Accept the End-User License Agreement
2. Click Next

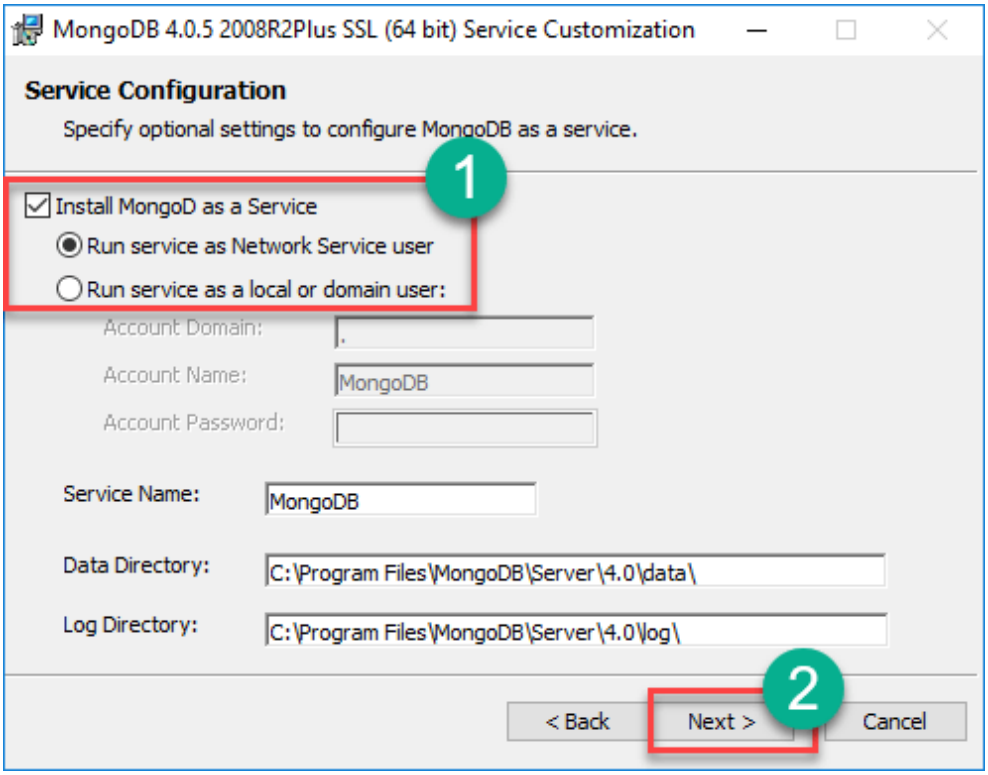


Step 4) Click on the "complete" button to install all of the components. The custom option can be used to install selective components or if you want to change the location of the installation.

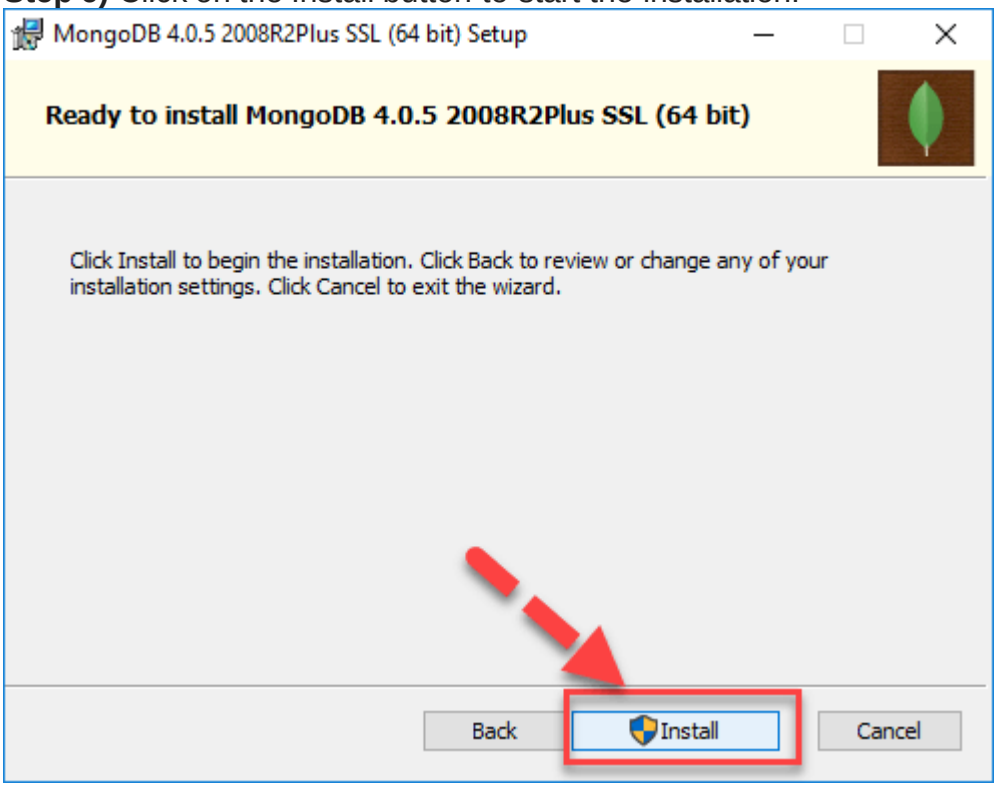


Step 5)

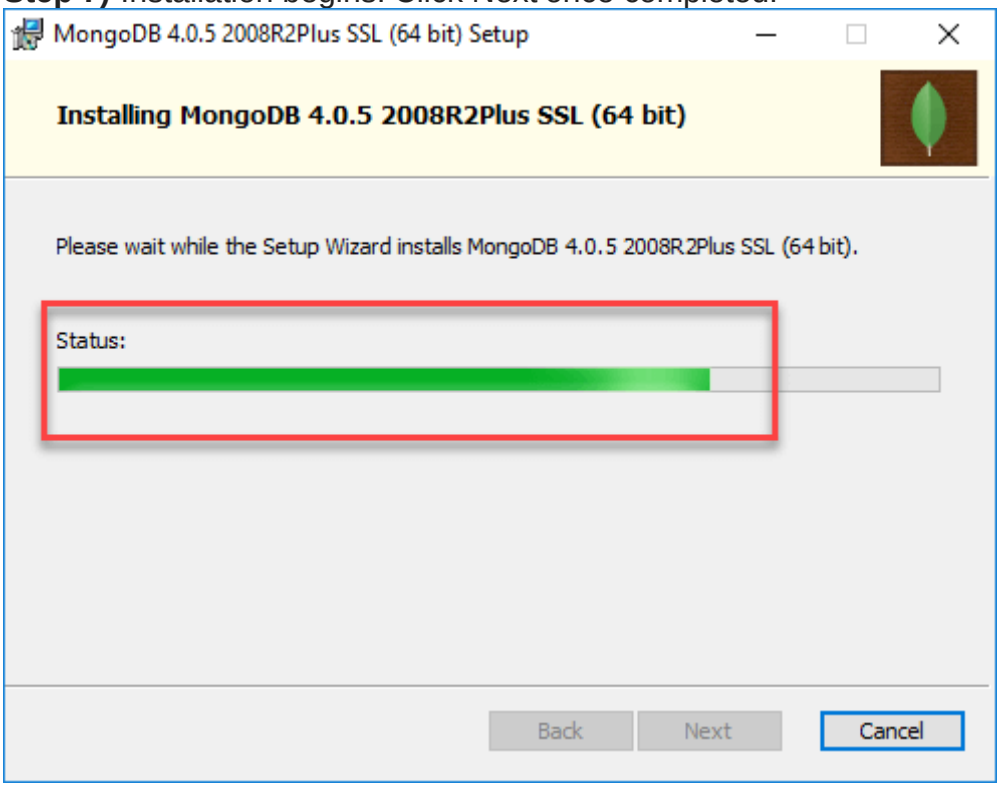
1. Select “Run service as Network Service user”. make a note of the data directory, we’ll need this later.
2. Click Next



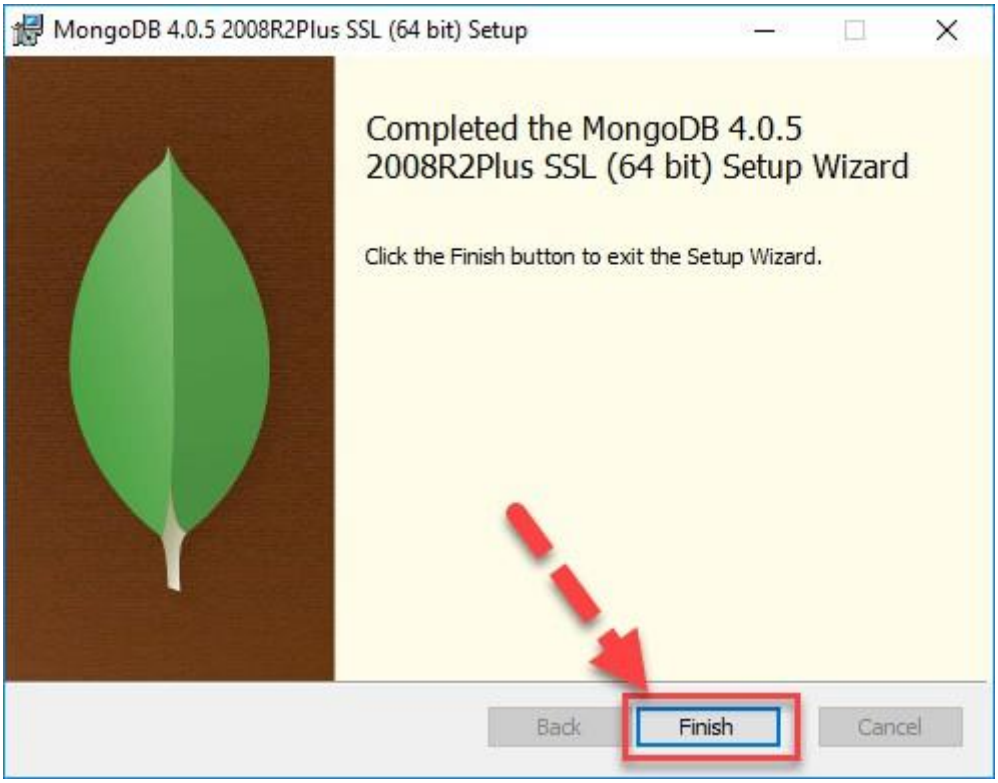
Step 6) Click on the Install button to start the installation.



Step 7) Installation begins. Click Next once completed.



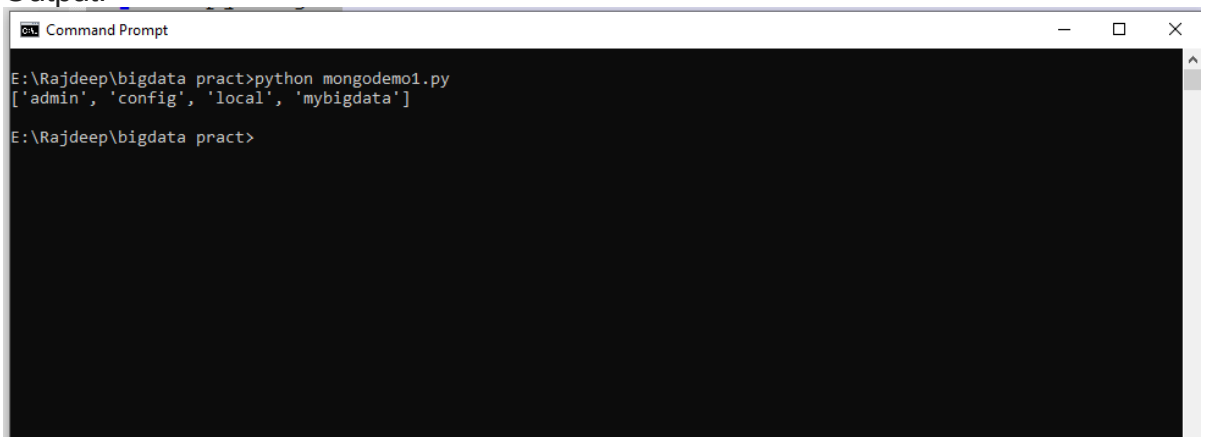
Step 8) Click on the Finish button to complete the installation



Program 1: Displaying the database name:

```
import pymongo
myclient = pymongo.MongoClient("mongodb://localhost:27017/")
mydb = myclient["mybigdata"]
print(myclient.list_database_names())
```

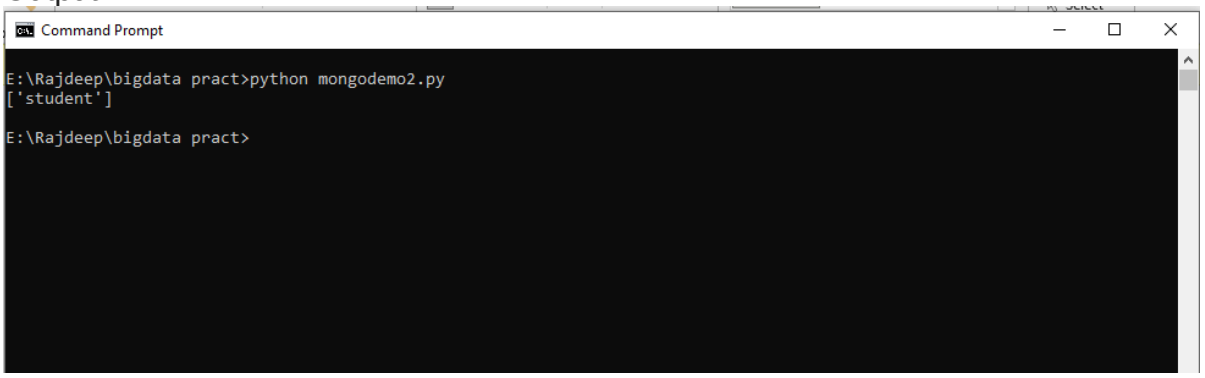
Output:



Program 2: Creating collection:

```
import pymongo
myclient = pymongo.MongoClient("mongodb://localhost:27017/")
mydb = myclient["mybigdata"]
mycol=mydb["student"]
print(mydb.list_collection_names())
```

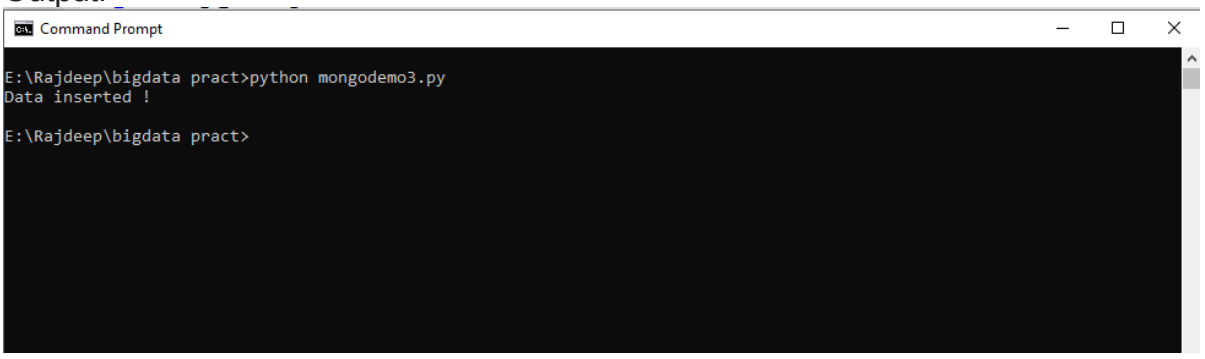
Output:



Program 3: Inserting Data

```
import pymongo
myclient = pymongo.MongoClient("mongodb://localhost:27017/")
mydb = myclient["mybigdata"]
mycol=mydb["student"]
mydict={"name":"vai", "address":"bhy"}
x=mycol.insert_one(mydict)
print("Data inserted !")
```

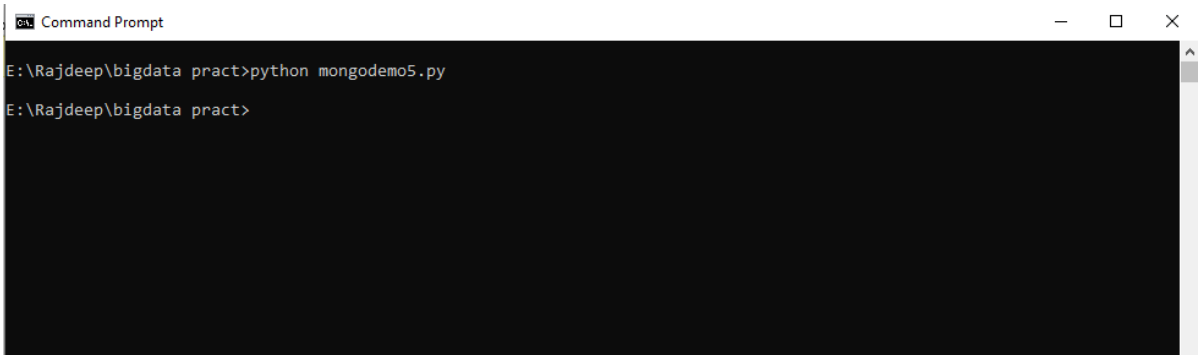
Output:



Program 4: Insert Multiple data into Collection

```
import pymongo
myclient = pymongo.MongoClient("mongodb://localhost:27017/")
mydb = myclient["mybigdata"]
mycol=mydb["student"]
mylist=[{"name":"Ganesh", "address":"Mumbai"}, {"name":"Varun",
"address":"Mumbai"},
{"name":"Prasoon", "address":"Pune"}, {"name":"Satish", "address":"Pune"},]
x=mycol.insert_many(mylist)
print("Data inserted !")
```

Output:



Program 5: Displaying the collection data:

```
import pymongo
myclient = pymongo.MongoClient("mongodb://localhost:27017/")
mydb = myclient["mybigdata"]
mycol = mydb["student"]

myquery = { "name": "Vai" }

mydoc = mycol.find(myquery)

for x in mydoc:
  print(x)
```

Output: