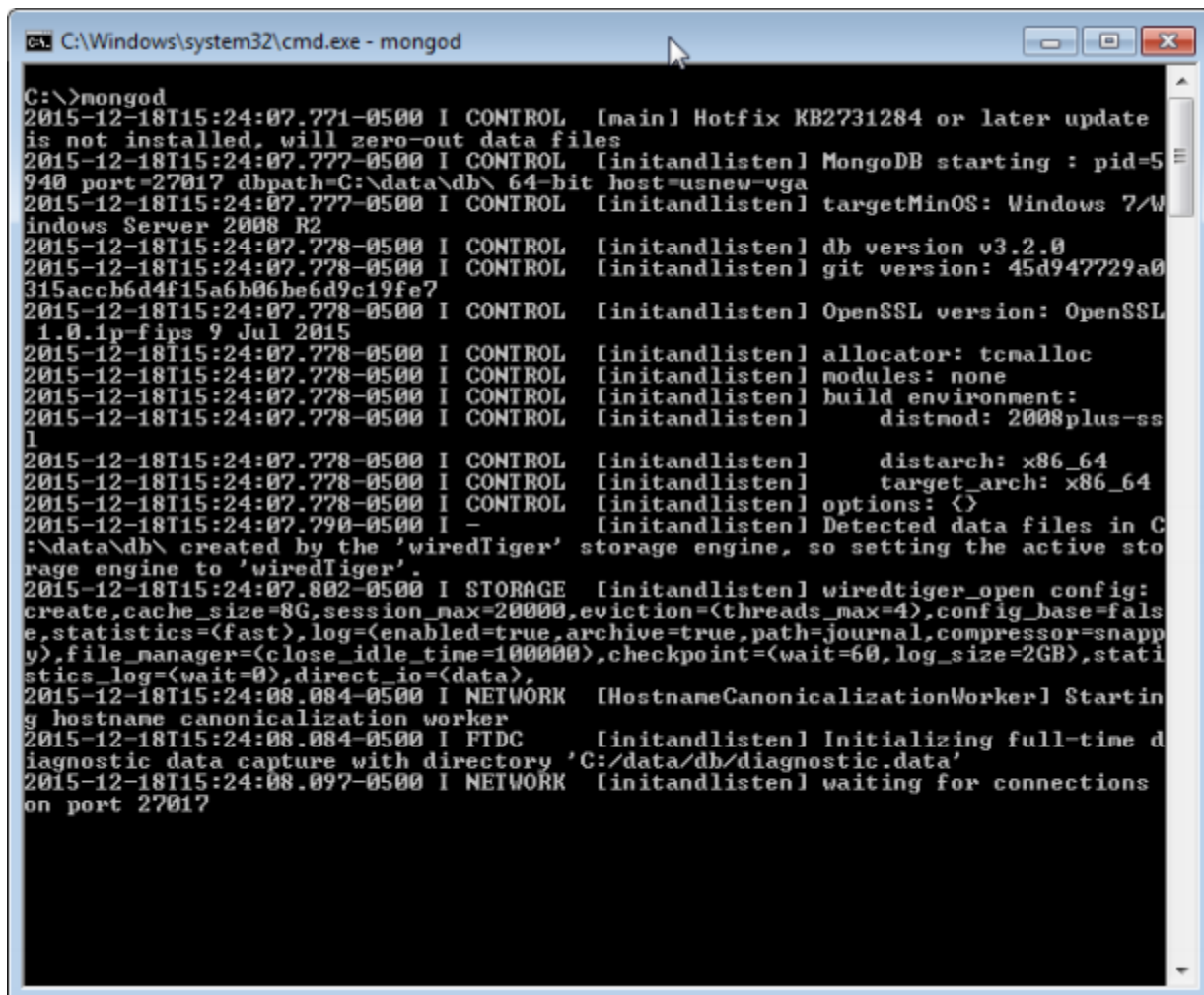


Assignment 14 Solution

Download the MongoDB :



```
C:\Windows\system32\cmd.exe - mongod
C:\>mongod
2015-12-18T15:24:07.771-0500 I CONTROL [main] Hotfix KB2731284 or later update
is not installed. will zero-out data files
2015-12-18T15:24:07.777-0500 I CONTROL [initandlisten] MongoDB starting : pid=5
940 port=27017 dbpath=C:\data\db\ 64-bit host=usnew-vga
2015-12-18T15:24:07.777-0500 I CONTROL [initandlisten] targetMinOS: Windows 7/W
indows Server 2008 R2
2015-12-18T15:24:07.778-0500 I CONTROL [initandlisten] db version v3.2.0
2015-12-18T15:24:07.778-0500 I CONTROL [initandlisten] git version: 45d947729a0
315accb6d4f15a6b06be6d9c19fe7
2015-12-18T15:24:07.778-0500 I CONTROL [initandlisten] OpenSSL version: OpenSSL
1.0.1p-fips 9 Jul 2015
2015-12-18T15:24:07.778-0500 I CONTROL [initandlisten] allocator: tcmalloc
2015-12-18T15:24:07.778-0500 I CONTROL [initandlisten] modules: none
2015-12-18T15:24:07.778-0500 I CONTROL [initandlisten] build environment:
2015-12-18T15:24:07.778-0500 I CONTROL [initandlisten] distmod: 2008plus-ss
l
2015-12-18T15:24:07.778-0500 I CONTROL [initandlisten] distarch: x86_64
2015-12-18T15:24:07.778-0500 I CONTROL [initandlisten] target_arch: x86_64
2015-12-18T15:24:07.778-0500 I CONTROL [initandlisten] options: {}
2015-12-18T15:24:07.790-0500 I - [initandlisten] Detected data files in C
:\data\db\ created by the 'wiredTiger' storage engine, so setting the active sto
rage engine to 'wiredTiger'.
2015-12-18T15:24:07.802-0500 I STORAGE [initandlisten] wiredtiger_open config:
create,cache_size=8G,session_max=20000,eviction=(threads_max=4),config_base=false,statistics=(fast),log=(enabled=true,archive=true,path=journal,compressor=snappy),file_manager=(close_idle_time=100000),checkpoint=(wait=60,log_size=2GB),statistics_log=(wait=0),direct_io=(data)
2015-12-18T15:24:08.084-0500 I NETWORK [HostnameCanonicalizationWorker] Startin
g hostname canonicalization worker
2015-12-18T15:24:08.084-0500 I FTDC [initandlisten] Initializing full-time d
iagnostic data capture with directory 'C:/data/db/diagnostic.data'
2015-12-18T15:24:08.097-0500 I NETWORK [initandlisten] waiting for connections
on port 27017
```

Assignment 14 Solution

Inserting the Bird strike.csv and getting and display the inserted file:

```
# Function to load birdstrike data from working directory.
loadBirdStrikeData <- function(file = "Bird Strikes.csv") {
  # Load Bird strike data from working directory.
  df <- read.csv(file = file, stringsAsFactors = FALSE, header = TRUE)
  titles <- colnames(df)
  # Change column names and remove '.'
  colnames(df) <- gsub("\\\\.", "", titles)
  return(df)
}

db = "BirdStrike"
collection = "data"

# Question 2. Insert the Bird Strikes.csv file into MongoDB and
# use the export command to display the inserted file.
df <- loadBirdStrikeData()
mongoData <- mongo(db = db, collection = collection)
mongoData$insert(df)
mongoData$export(file("data.txt"))
```

Output:

```
> mongoData$insert(df)
Complete! Processed total of 99404 rows.
[1] TRUE
> mongoData$export(file("data.txt"))
Done! Exported a total of 99404 lines.
```

Question 3

3A) output:

```
> mongoData$distinct(key = "AirportName")
[1] "NEWARK LIBERTY INTL ARPT"
[3] "DENVER INTL AIRPORT"
[5] "JOHN F KENNEDY INTL"
[7] "MIAMI INTL"
[9] "SALT LAKE CITY INTL"
[11] "KANSAS CITY INTL"
[13] "SAN ANTONIO INTL"
[15] "THEODORE FRANCIS GREEN STATE"
[17] "BALTIMORE WASH INTL"
[19] "TETERBORO AIRPORT"
[21] "WILMINGTON INTL"
[23] "GROTON-NEW LONDON AR"
[25] "RONALD REAGAN WASHINGTON NATL"
[27] "ORLANDO SANFORD INTL AIRPORT"
"UNKNOWN"
"CHICAGO O'HARE INTL ARPT"
"CINCINNATI MUNI ARPT-LUNKEN FIELD"
"SAN FRANCISCO INTL ARPT"
"SOUTHWEST FLORIDA INTL ARPT"
"NASHVILLE INTL"
"PENSACOLA REGIONAL"
"ATLANTA INTL"
"MINETA SAN JOSE INTL"
"LAFAYETTE REGIONAL (LA)"
"LUIS MUNOZ MARIN INTL -SAN JUAN"
"PORT COLUMBUS INTL"
"SAN DIEGO INTL"
"ORLANDO INTL"
```

Assignment 14 Solution

3B)

```
> mongoData$count(query = '{"OriginState":"New Jersey"}')  
[1] 2936
```

3C)

```
146 ID BY SMITHSONIAN. FAA 4011. DNA. NO DEFORMED SURFACE NOTED ON RT WING. BLOOD AND FEATHERS OBSERVED ON R SLAT AND  
DER WING/FLAP. NO DMG TO A/C. TIME OUT OF SERV WAS DUE TO MX FROM FRESNO BEING SENT TO INSPECT AND RETURN THE A/C TO SERVICE.  
147  
148 EVID OF STRIKE FOUND ON TOP OF FUSELAGE AND A/C NOSE. NO DMG NOTED.  
149 REMAINS SENT TO SMITHSONIAN ACCORDING TO ARPT REPT BUT THEY WERE NOT RECEIVED.  
F/O FLEETINGLY SAW BIRD THRU LOG LIGHTS AND BOTH CREW FELT THUMP ON AIRFRAME. LANDED  
EVENTFULLY. POST FLT INSPN FOUND A DUCK HAD ENTERED THE LEFT SIDE AIR CONDITIONING DUCT (PACK). A/C WAS TAKEN OUT OF SERVICE.  
150  
151 OPS RESPONDED TO STRIKE REPT AND REMVD ONE RED FOX FROM RWY 1R AT 7500' REM MARK. PART STRUCK NOT REPTD, ASSUME LANDING  
EAR. ARPT BIOLOGIST HAD NO FURTHER REPTS OR INFO. DAILY REPT SHOWED PILOT, UPON FURTHER INSPN REPORTED MINOR DMG TO THE A/C.  
---
```

Question 4

4i) output

American Airlines

3839	319905
3840	319904
3841	319537
3842	319912
3843	319913
3844	319539
3845	319945
3846	319796
3847	319795
3848	319615
3849	319628
3850	319569
3851	319572

Continental Airlines

823	317895
824	318759
825	318769
826	319266
827	319267
828	319184
829	318859
830	318860
831	319396
832	319483
833	319643

Assignment 14 Solution

4ii) output

American Airlines

3841	NEW YORK
3842	Texas
3843	Texas
3844	Texas
3845	N/A
3846	Florida
3847	Texas
3848	Texas
3849	Texas
3850	Texas
3851	Texas

Continental Airlines

822	New Jersey
823	New Jersey
824	Pennsylvania
825	New Jersey
826	Texas
827	New Jersey
828	Florida
829	Illinois
830	N/A
831	Texas
832	California
833	Florida

4iii) output

American Airlines

3840	AMERICAN AIRLINES
3841	AMERICAN AIRLINES
3842	AMERICAN AIRLINES
3843	AMERICAN AIRLINES
3844	AMERICAN AIRLINES
3845	AMERICAN AIRLINES
3846	AMERICAN AIRLINES
3847	AMERICAN AIRLINES
3848	AMERICAN AIRLINES
3849	AMERICAN AIRLINES
3850	AMERICAN AIRLINES

Continental Airlines

826	CONTINENTAL AIRLINES
827	CONTINENTAL AIRLINES
828	CONTINENTAL AIRLINES
829	CONTINENTAL AIRLINES
830	CONTINENTAL AIRLINES
831	CONTINENTAL AIRLINES
832	CONTINENTAL AIRLINES
833	CONTINENTAL AIRLINES

Assignment 14 Solution

4iv) output

American Airlines

3844	DALLAS/FORT WORTH INTL	ARPT
3845	MANAGUA INTL	ARPT
3846	MIAMI INTL	
3847	DALLAS/FORT WORTH INTL	ARPT
3848	AUSTIN-BERGSTROM INTL	
3849	DALLAS/FORT WORTH INTL	ARPT
3850	DALLAS/FORT WORTH INTL	ARPT
3851	DALLAS/FORT WORTH INTL	ARPT

Continental Airlines

820	SAN ANTONIO INTL	
827	NEWARK LIBERTY INTL	ARPT
828	MIAMI INTL	
829	CHICAGO O'HARE INTL	ARPT
830	TOCUMEN INTL	
831	DALLAS/FORT WORTH INTL	ARPT
832	SAN FRANCISCO INTL	ARPT
833	FORT LAUDERDALE/HOLLYWOOD INTL	