

## 1. Creating Accounts

#1	Main Menu	<pre>"C:\Program Files\Microsoft\jdk-17.0.3.7-hotspot\bin\java.exe" ... &lt;-----Bank Of Bengaluru: Banking Application using Tree Map-----&gt; Menu: 1. Create Accounts 2. List all Accounts 3. View an Account 4. Update an Account 5. Delete an Account 6. Print Statistics 7. Import 8. Export 9. Exit</pre>
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#2	Database before Insert	<div><div>training/postgres@Training</div><div><div>Query Editor</div><div>Query History</div></div><div><div>1</div><div>SELECT * FROM account</div><div>2</div></div><div><div>Data Output</div><div>Explain</div><div>Messages</div><div>Notifications</div></div><table><thead><tr><th></th><th>id</th><th>active</th><th>balance</th><th>createddate</th><th>name</th><th>type</th><th>update</th></tr><tr><th></th><th>[PK] integer</th><th>boolean</th><th>double precision</th><th>date</th><th>character varying (255)</th><th>character varying (255)</th><th>date</th></tr></thead><tbody><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></tbody></table></div>		id	active	balance	createddate	name	type	update		[PK] integer	boolean	double precision	date	character varying (255)	character varying (255)	date								
	id	active	balance	createddate	name	type	update																			
	[PK] integer	boolean	double precision	date	character varying (255)	character varying (255)	date																			
#2. 1	Entering the number accounts	<div>How many accounts you would like to create? 2 Creating Accounts...</div>																								
#3	Entering account details (true/false/y/n/yes/no are accepted for isActive field)																									

```
Creating Accounts...  
Enter the name of the Account Holder?  
Padmini C  
Enter the Account Type?  
Deposit  
Enter the Account Balance?  
8882  
Is the Account Active?  
true  
Accounts created successfully
```

## BANK OF BENGALURU: HIBERNATE

Poornima Chandrasekaran

```
Accounts created successfully
Jul 10, 2023 9:10:34 AM org.hibernate.Version logVersion
INFO: HHH000412: Hibernate ORM core version 5.6.9.Final
Jul 10, 2023 9:10:34 AM org.hibernate.cfg.Environment <clinit>
INFO: HHH000205: Loaded properties from resource hibernate.properties: {hibernate.connection.driver_class=org.postgresql.Driver, hibernate.format_sql=true, l
Jul 10, 2023 9:10:34 AM org.hibernate.annotations.common.reflection.java.JavaReflectionManager <clinit>
INFO: HCANN000001: Hibernate Commons Annotations {5.1.2.Final}
Jul 10, 2023 9:10:34 AM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl configure
WARN: HHH10001002: Using Hibernate built-in connection pool (not for production use!)
Jul 10, 2023 9:10:34 AM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl buildCreator
INFO: HHH10001005: using driver [org.postgresql.Driver] at URL [jdbc:postgresql://localhost:5432/training]
Jul 10, 2023 9:10:34 AM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl buildCreator
INFO: HHH10001001: Connection properties: {password=****, user=postgres}
Jul 10, 2023 9:10:34 AM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl buildCreator
INFO: HHH10001003: Autocommit mode: false
Jul 10, 2023 9:10:34 AM org.hibernate.engine.jdbc.connections.internal.DriverManagerConnectionProviderImpl$PooledConnections <init>
INFO: HHH000115: Hibernate connection pool size: 20 (min=1)
Jul 10, 2023 9:10:35 AM org.hibernate.dialect.Dialect <init>
INFO: HHH000400: Using dialect: org.hibernate.dialect.PostgreSQL10Dialect
Jul 10, 2023 9:10:36 AM org.hibernate.resource.transaction.backend.jdbc.internal.DdlTransactionIsolatorNonJtaImpl getIsolatedConnection
INFO: HHH10001501: Connection obtained from JdbcConnectionAccess [org.hibernate.engine.jdbc.env.internal.JdbcEnvironmentInitiator$ConnectionProviderJdbcConn
Jul 10, 2023 9:10:36 AM org.hibernate.engine.transaction.jta.platform.internal.JtaPlatformInitiator initiateService
INFO: HHH000490: Using JtaPlatform implementation: [org.hibernate.engine.transaction.jta.platform.internal.NoJtaPlatform]
Database Connection Successful!!! - org.hibernate.internal.SessionFactoryImpl@1431267b
```

Accounts created successfully with ID - 12

Enter the name of the Account Holder?

Chandru U

Enter the Account Type?

LOAN

Enter the Account Balance?

88231.3

Is the Account Active?

false

Accounts created successfully

Accounts created successfully with ID - 13

#4 Account creation confirmation, and main menu

<-----Bank Of Bengaluru: Banking Application using Tree Map----->

Menu:

1. Create Accounts
2. List all Accounts
3. View an Account
4. Update an Account
5. Delete an Account
6. Print Statistics
7. Import
8. Export
9. Exit

```
1 SELECT * FROM account
```

```
2
```

Data Output Explain Messages Notifications

	id [PK] integer	active boolean	balance double precision	createddate date	name character varying (255)	type character varying (255)
1	12	true	8882	2023-01-01	Padmini C	DEPOSIT
2	13	false	88231.3	2023-03-01	Chandru U	LOAN

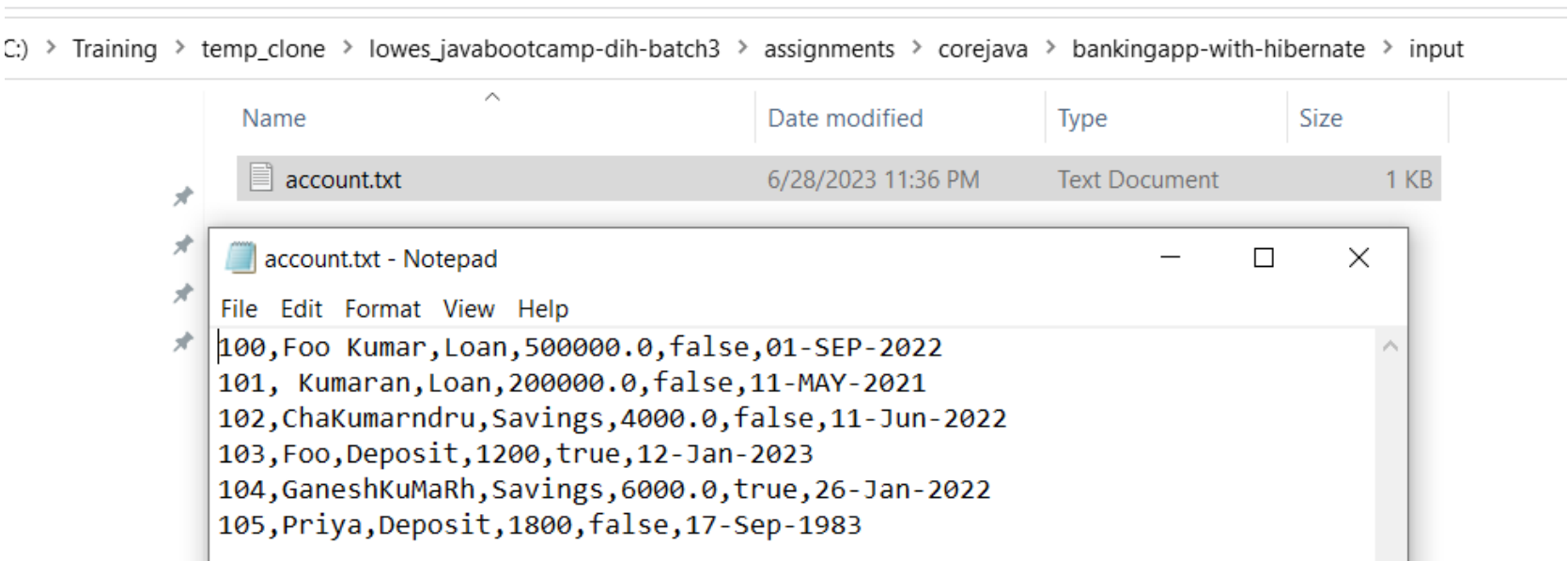

#5	Error handled while trying to enter characters for Account Id	N/A (as the Id is auto generated)
#6	Error handled while trying to enter characters for Balance	<pre>Enter the Account Balance? hundred Invalid input, please enter only numbers; This field is decimal friendly.! Enter the Account Balance? 10023 Is the Account Active? true</pre>
#7	Error handling for entering other than the defined account type	<pre>Enter the Account Type? Type1 Invalid choice, please choose Deposit,Savings or Loan Enter the Account Type? Savings Enter the Account Balance?</pre>

#8	Name restriction. Should be 3 characters at least	<pre> How many accounts you would like to create? 1 Creating Accounts... Enter the name of the Account Holder? Le Enter the Account Type? Savings Enter the Account Balance? 9888 Is the Account Active? true Please check if Name contains atleast three characters and please have a minimum balance of Rs 100 Account 0 Creation Failed, Please Create Another Account &lt;-----Bank Of Bengaluru: Banking Application using Tree Map-----&gt; </pre>
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## 2. Import as we go! - concurrent execution.

#1	Snapshot of existing data	<pre> 2 Fetching Accounts... 12 Padmini C 8882.0 DEPOSIT true 2023-01-01 null 13 Chandru U 88231.3 LOAN false 2023-03-01 null 14 Sami 10023.0 SAVINGS true 2023-02-01 null Account{id=12, name='Padmini C', type='DEPOSIT', balance=8882.0, active=true, created on=01-Jan-2023, updated on=null} Account{id=13, name='Chandru U', type='LOAN', balance=88231.3, active=false, created on=01-Mar-2023, updated on=null} Account{id=14, name='Sami', type='SAVINGS', balance=10023.0, active=true, created on=01-Feb-2023, updated on=null} </pre>
#2	Snapshot of the file (create	



	date is towards the end)	
#3	Actual file I used, with create date being towards the end	
#4	File path is relative	<p>File path is supplied from the caller</p> <pre>//Import validation - 2 from BeforeEach block and 4 from the Test file Mockito.lenient().when(accountDao.createAccount(account)).thenReturn( t: 8); retVal = accService.ImportData( filePath: "./input/account.txt"); assertEquals( expected: 8, retVal.size());</pre>

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#5	Thread started but manual addition permitted	<pre>Thread[pool-1-thread-1,5,main] Waiting to start importing  Accounts created successfully with ID - 21  Accounts created successfully with ID - 22 1 How many accounts you would like to create?  Accounts created successfully with ID - 23 1 Creating Accounts... Enter the name of the Account Holder?  Accounts created successfully with ID - 24 Poornima Enter the Account Type?  Accounts created successfully with ID - 25 Loan Enter the Account Balance?  Accounts created successfully with ID - 26 99pool-1-thread-1 Accounts data imported successfully.919 Is the Account Active? true Accounts created successfully</pre>
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#6	Import completion thread confirmation	<pre>Accounts created successfully  Accounts created successfully with ID - 27 &lt;-----Bank Of Bengaluru: Banking Application using Tree Map-----&gt; Menu: 1. Create Accounts 2. List all Accounts 3. View an Account 4. Update an Account 5. Delete an Account 6. Print Statistics 7. Import 8. Export 9. Exit</pre>

#7	Showing all account	<pre> 12 Padmini C 8882.0 DEPOSIT true 2023-01-01 null 13 Chandru U 88231.3 LOAN false 2023-03-01 null 14 Sami 10023.0 SAVINGS true 2023-02-01 null 15 Foo Kumar 500000.0 Loan false 2022-09-01 null 16 Kumaran 200000.0 Loan false 2021-05-11 null 17 ChaKumarndru 4000.0 Savings false 2022-06-11 null 18 Foo 1200.0 Deposit true 2023-01-12 null 19 GaneshKuMaRh 6000.0 Savings true 2022-01-26 null 20 Priya 1800.0 Deposit false 1983-09-17 null 21 Foo Kumar 500000.0 Loan false 2022-09-01 null 22 Kumaran 200000.0 Loan false 2021-05-11 null 23 ChaKumarndru 4000.0 Savings false 2022-06-11 null 24 Foo 1200.0 Deposit true 2023-01-12 null 25 GaneshKuMaRh 6000.0 Savings true 2022-01-26 null 26 Priya 1800.0 Deposit false 1983-09-17 null 27 Poornima 919.0 LOAN true 2023-03-01 null </pre>
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### 3. Listing all accounts

#1	Listing	
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	all the accounts created during the above steps	<div>Fetching Accounts...</div> <div>Jul 10, 2023 9:18:08 AM org.hibernate.internal.SessionImpl createCriteria</div> <div>WARN: HHH9000022: Hibernate's legacy org.hibernate.Criteria API is deprecated; use the JPA javax.persistence.criteria.CriteriaQuery instead</div> <div>12 Padmini C 8882.0 DEPOSIT true 2023-01-01 null</div> <div>13 Chandru U 88231.3 LOAN false 2023-03-01 null</div> <div>14 Sami 10023.0 SAVINGS true 2023-02-01 null</div> <div>Account{id=12, name='Padmini C', type='DEPOSIT', balance=8882.0, active=true, created on=01-Jan-2023, updated on=null}</div> <div>Account{id=13, name='Chandru U', type='LOAN', balance=88231.3, active=false, created on=01-Mar-2023, updated on=null}</div> <div>Account{id=14, name='Sami', type='SAVINGS', balance=10023.0, active=true, created on=01-Feb-2023, updated on=null}</div>																																								
#2	From the Database	<div><div>Query Editor</div><div>Query History</div></div> <div><div>1</div><div>2</div></div> <div><div>SELECT * FROM account</div></div> <div><div>Data Output</div><div>Explain</div><div>Messages</div><div>Notifications</div></div> <table><thead><tr><th></th><th>id [PK] integer</th><th>active boolean</th><th>balance double precision</th><th>createddate date</th><th>name character varying (255)</th><th>type character varying (255)</th><th>updatedate date</th></tr></thead><tbody><tr><td>1</td><td>12</td><td>true</td><td>8882</td><td>2023-01-01</td><td>Padmini C</td><td>DEPOSIT</td><td>[null]</td></tr><tr><td>2</td><td>13</td><td>false</td><td>88231.3</td><td>2023-03-01</td><td>Chandru U</td><td>LOAN</td><td>[null]</td></tr><tr><td>3</td><td>14</td><td>true</td><td>10023</td><td>2023-02-01</td><td>Sami</td><td>SAVINGS</td><td>[null]</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></tbody></table>		id [PK] integer	active boolean	balance double precision	createddate date	name character varying (255)	type character varying (255)	updatedate date	1	12	true	8882	2023-01-01	Padmini C	DEPOSIT	[null]	2	13	false	88231.3	2023-03-01	Chandru U	LOAN	[null]	3	14	true	10023	2023-02-01	Sami	SAVINGS	[null]								
	id [PK] integer	active boolean	balance double precision	createddate date	name character varying (255)	type character varying (255)	updatedate date																																			
1	12	true	8882	2023-01-01	Padmini C	DEPOSIT	[null]																																			
2	13	false	88231.3	2023-03-01	Chandru U	LOAN	[null]																																			
3	14	true	10023	2023-02-01	Sami	SAVINGS	[null]																																			

#### 4. Viewing an account

#1	Entering the proper Account ID	<pre>View details of the given Account id... Enter the Account ID: 14 Account Id: 14 Account Name: Sami Account Type: SAVINGS Account Balance: 10023.0 Is the account active? true</pre>
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## 5. Printing the statistics

# 1	Printing the data statistics	<pre> ----- ***Average Balance by the Account Type: {DEPOSIT=8882.0, Deposit=1500.0, LOAN=44575.15, Loan=350000.0, SAVINGS=10023.0, Savings=5000.0} ***Average account age (in days) for each type ----- Average Age for Deposit is: 7360.0 Average Age for Savings is: 462.0 Average Age for LOAN is: 131.0 Average Age for Loan is: 551.0 &lt;-----Bank Of Bengaluru: Banking Application using Tree Map-----&gt; Menu: 1. Create Accounts 2. List all Accounts 3. View an Account 4. Update an Account 5. Delete an Account 6. Print Statistics 7. Import 8. Export 9. Exit Jul 10, 2023 9:26:15 AM org.hibernate.internal.SessionImpl createCriteria WARN: HHH90000022: Hibernate's legacy org.hibernate.Criteria API is deprecated; use the JPA javax.persistence.criteria.CriteriaQuery Jul 10, 2023 9:26:15 AM org.hibernate.internal.SessionImpl createCriteria WARN: HHH90000022: Hibernate's legacy org.hibernate.Criteria API is deprecated; use the JPA javax.persistence.criteria.CriteriaQuery </pre>
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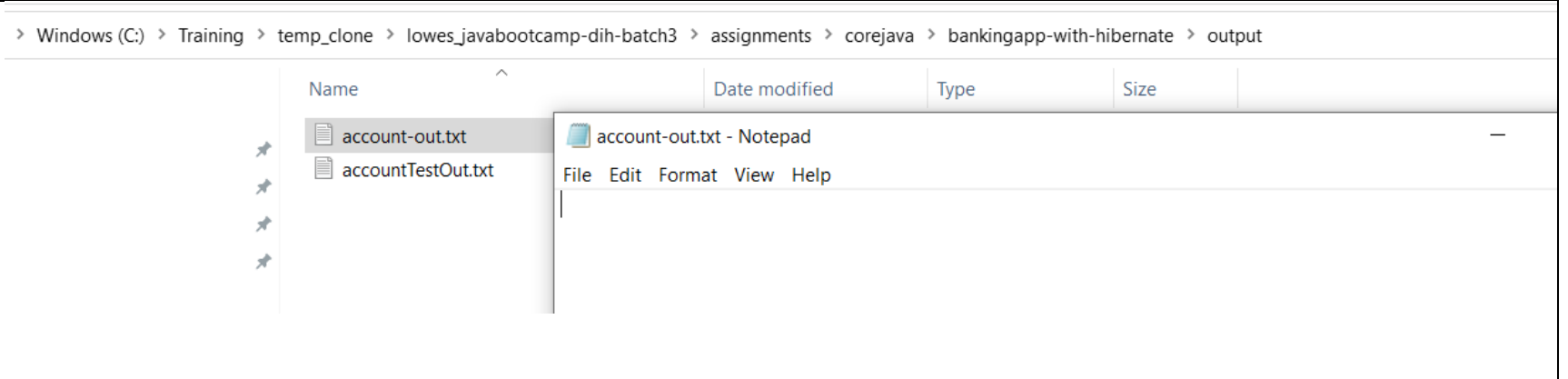
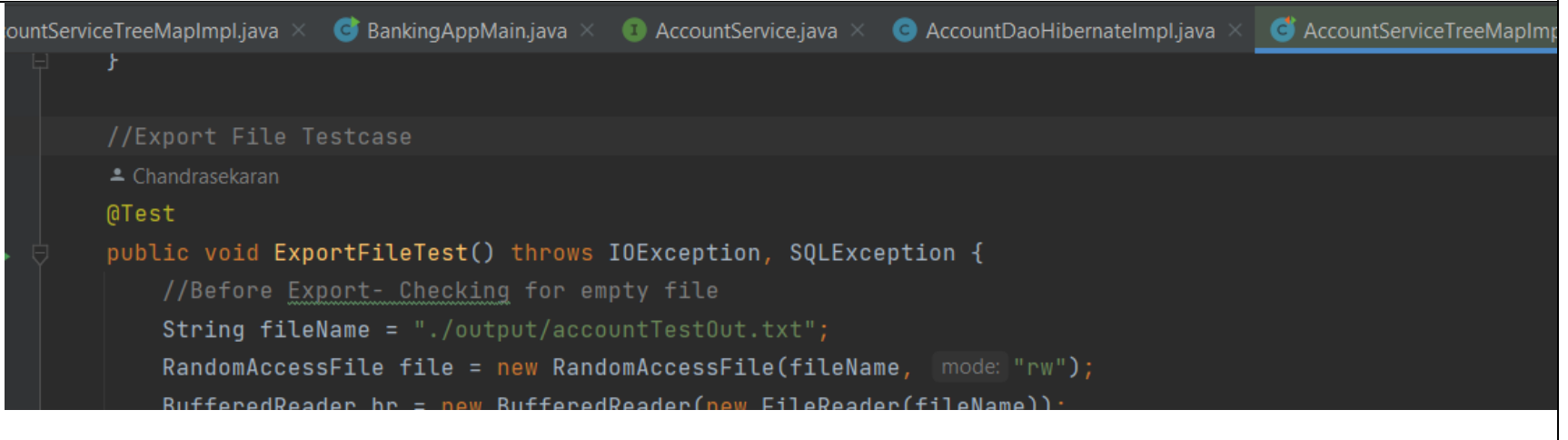
## 6. Export



## BANK OF BENGALURU: HIBERNATE

Poornima Chandrasekaran

# 1	Screensh ot of the complete data	<pre>Thread[pool-1-thread-2,5,main] Waiting to start exporting Jul 10, 2023 9:31:31 AM org.hibernate.internal.SessionImpl createCriteria WARN: HHH90000022: Hibernate's legacy org.hibernate.Criteria API is deprecated; use the JPA javax.persistence.criteria.CriteriaQu 12 Padmini C 8882.0 DEPOSIT true 2023-01-01 null 13 Chandru U 88231.3 LOAN false 2023-03-01 null 14 Sami 10023.0 SAVINGS true 2023-02-01 null 15 Foo Kumar 500000.0 Loan false 2022-09-01 null 16 Kumaran 200000.0 Loan false 2021-05-11 null 17 ChaKumarndru 4000.0 Savings false 2022-06-11 null 18 Foo 1200.0 Deposit true 2023-01-12 null 19 GaneshKuMaRh 6000.0 Savings true 2022-01-26 null 20 Priya 1800.0 Deposit false 1983-09-17 null 21 Foo Kumar 500000.0 Loan false 2022-09-01 null 22 Kumaran 200000.0 Loan false 2021-05-11 null 23 ChaKumarndru 4000.0 Savings false 2022-06-11 null 24 Foo 1200.0 Deposit true 2023-01-12 null 25 GaneshKuMaRh 6000.0 Savings true 2022-01-26 null 26 Priya 1800.0 Deposit false 1983-09-17 null 27 Poornima 919.0 LOAN true 2023-03-01 null 28 Foo Kumar 500000.0 Loan false 2022-09-01 null 29 Kumaran 200000.0 Loan false 2021-05-11 null 30 ChaKumarndru 4000.0 Savings false 2022-06-11 null 31 Foo 1200.0 Deposit true 2023-01-12 null 32 GaneshKuMaRh 6000.0 Savings true 2022-01-26 null 33 Priya 1800.0 Deposit false 1983-09-17 null</pre>
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# 2	The empty file before export	
# 3	Export's relative path	

#4

Exported file

his PC > Windows (C:) > Training > temp\_clone > lowes\_javabootcamp-dih-batch3 > assignments > corejava > bankingapp-with-hibernate > output

Name	Date modified	Type	Size
account-out.txt	7/10/2023 9:32 AM	Text Document	2 KB

account-out.txt - Notepad

File Edit Format View Help

12	Padmini C	DEPOSIT	8882.0	true	2023-01-01	null
13	Chandru U	LOAN	88231.3	false	2023-03-01	null
14	Sami SAVINGS	10023.0	true	2023-02-01	null	
15	Foo Kumar	Loan	500000.0	false	2022-09-01	null
16	Kumaran Loan	200000.0	false	2021-05-11	null	
17	ChaKumarndru	Savings	4000.0	false	2022-06-11	null
18	Foo Deposit	1200.0	true	2023-01-12	null	
19	GaneshKuMaRh	Savings	6000.0	true	2022-01-26	null
20	Priya Deposit	1800.0	false	1983-09-17	null	
21	Foo Kumar	Loan	500000.0	false	2022-09-01	null
22	Kumaran Loan	200000.0	false	2021-05-11	null	
23	ChaKumarndru	Savings	4000.0	false	2022-06-11	null
24	Foo Deposit	1200.0	true	2023-01-12	null	
25	GaneshKuMaRh	Savings	6000.0	true	2022-01-26	null
26	Priya Deposit	1800.0	false	1983-09-17	null	
27	Poornima	LOAN	919.0	true	2023-03-01	null
28	Foo Kumar	Loan	500000.0	false	2022-09-01	null
29	Kumaran Loan	200000.0	false	2021-05-11	null	
30	ChaKumarndru	Savings	4000.0	false	2022-06-11	null
31	Foo Deposit	1200.0	true	2023-01-12	null	
32	GaneshKuMaRh	Savings	6000.0	true	2022-01-26	null
33	Priya Deposit	1800.0	false	1983-09-17	null	

es.com\data1) (G:)

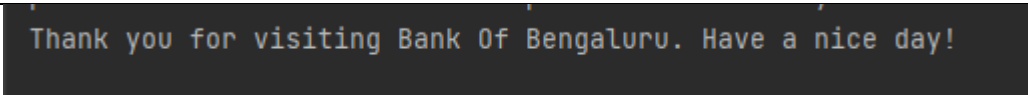
account-out.txt

**Poornima Chandrasekaran**

	<div><div><div><div><div></div><div></div></div><div><div></div><div></div></div></div><div>id</div><div>[PK] integer</div></div></div>	<div><div><div><div><div></div><div></div></div><div><div></div><div></div></div></div><div>active</div><div>boolean</div></div></div>	<div><div><div><div><div></div><div></div></div><div><div></div><div></div></div></div><div>balance</div><div>double precision</div></div></div>	<div><div><div><div><div></div><div></div></div><div><div></div><div></div></div></div><div>createddate</div><div>date</div></div></div>	<div><div><div><div><div></div><div></div></div><div><div></div><div></div></div></div><div>name</div><div>character varying (255)</div></div></div>	<div><div><div><div><div></div><div></div></div><div><div></div><div></div></div></div><div>type</div><div>character varying (255)</div></div></div>	<div><div><div><div><div></div><div></div></div><div><div></div><div></div></div></div><div>updatedate</div><div>date</div></div></div>
1	12	true	8882	2023-01-01	Padmini C	DEPOSIT	[null]
2	13	false	88231.3	2023-03-01	Chandru U	LOAN	[null]
3	14	true	10023	2023-02-01	Sami	SAVINGS	[null]
4	15	false	500000	2022-09-01	Foo Kumar	Loan	[null]
5	16	false	200000	2021-05-11	Kumaran	Loan	[null]
6	17	false	4000	2022-06-11	ChaKumarndru	Savings	[null]
7	18	true	1200	2023-01-12	Foo	Deposit	[null]
8	19	true	6000	2022-01-26	GaneshKuMaRh	Savings	[null]
9	20	false	1800	1983-09-17	Priya	Deposit	[null]
10	21	false	500000	2022-09-01	Foo Kumar	Loan	[null]
11	22	false	200000	2021-05-11	Kumaran	Loan	[null]
12	23	false	4000	2022-06-11	ChaKumarndru	Savings	[null]
13	24	true	1200	2023-01-12	Foo	Deposit	[null]
14	25	true	6000	2022-01-26	GaneshKuMaRh	Savings	[null]
15	26	false	1800	1983-09-17	Priya	Deposit	[null]
16	27	true	919	2023-03-01	Poornima	LOAN	[null]
17	28	false	500000	2022-09-01	Foo Kumar	Loan	[null]
18	29	false	200000	2021-05-11	Kumaran	Loan	[null]
19	30	false	4000	2022-06-11	ChaKumarndru	Savings	[null]
20	31	true	1200	2023-01-12	Foo	Deposit	[null]
21	32	true	6000	2022-01-26	GaneshKuMaRh	Savings	[null]
22	33	false	1800	1983-09-17	Priya	Deposit	[null]

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**7. Exiting from the application**

#1	Entering proper index to exit the application. Thank you, message appears!	 A terminal window with a dark background and light-colored text. The text reads: "Thank you for visiting Bank Of Bengaluru. Have a nice day!"
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