ASSIGNMENT SPARK STREAMING

Task 1:

Read a stream of Strings, fetch the words which can be converted to numbers. Filter out the rows,where the sum of numbers in that line is odd.

Provide the sum of all the remaining numbers in that batch.

CODE FOR ODD NUMBER COUNT

```
import org.apache.spark.{SparkConf, SparkContext}
import org.apache.spark.streaming.{Seconds, StreamingContext}

object StreamingSparkCountNumbers {
  def main(args: Array[String]): Unit = {

   def Get_Lines_Sum(input: String) : Double = {

     val line = input.split("")
     var number : Double = 0.0
     for (x <- line)
     {
         try{
           val value =x.toDouble
           number = number +value
         }
         catch
         {
           case ex : Exception => ()
         }
     }
     return number
    }
    println("Spark Streaming Assignment Task 1")

    val conf = new
SparkConf().setMaster("local[2]").setAppName("OddLines")
    val sc = new SparkContext(conf)

    sc.setLogLevel("WARN")
    println("Spark Context Created")

    val ssc = new StreamingContext(sc, Seconds(20))
    println("Spark Streaming Context Created")

    val  lines = ssc.socketTextStream(hostname = "localhost", port = 9999)

    val lines_filter = lines.filter(x => Get_Lines_Sum(x) % 2 == 1)

    val lines_sum = lines_filter.map(x => Get_Lines_Sum(x))
    println("Lines With Odd Sum")
    lines_filter.print()

    println("Sum of the other Numbers in ODD Lines")
    lines_sum.reduce(_+_).print()

    ssc.start()
    ssc.awaitTermination()

  }
}
```

EXPLANATION: CREATED MAVEN PROJECT AND ADD ALL THE DEPENDENCIES. THEN CREATED SCALA OBJECT "StreamingSparkCountNumbers". THEN IMPORTED NECESSARY PACKAGES FOR SPARK STREAMING TO WORK. THEN CREATED OBJECT FOR SparkConf() AS "conf" AND SET THE MASTER TO "local[2]". THEN CREATED SPARK CONTEXT OBJECT "sc". THEN INSIDE MAIN FUNCTION CREATED A FUNCTION "Get_Lines_Sum" WHICH WILL READ THE STRING FROM THE IMPUT STREAM. IT WILL SPLIT THE WORDS AND THEN USING THE "TRY AND CATCH" METHOD WE ARE TAKING OUT THE NUMBERS FROM THE STRING AND ADDING THE NUMBERS. IF THE NUMBER IS NOT FOUND THE TRY CATCH METHOD WILL PRINT AS EXCPETION OR ERROR. THEN THIS FUNCTION WILL RETURN THE NUMBER. THEN CREATED OBJECT FOR STREAMING CONTEXT "ssc" WITH WORKING THREAD AND BATCH INTERVAL SET TO " 20 s".

CODE: val ssc = new StreamingContext(sc, Seconds(20))

EXPLANATION: AFTER THAT CREATED A DSTREAM THAT WILL CONNECT TO HOSTNAME "localhost" AND PORT "9999".

CODE: val lines = ssc.socketTextStream(hostname = "localhost", port = 9999)

EXPLANATION: NOW WE ARE TAKING OUT THE ODD NUMBERS FROM THE INPUT STREAM USING "filter" FUNCTION.

CODE: val lines_filter = lines.filter(x => Get_Lines_Sum(x) % 2 == 1)

EXPLANATION: AFTER THAT WE NEED TO ADD ALL THE NUMBERS FROM THE ODD STREAM USING "Get_Lines_Sum" FUNCTION.

CODE: val lines_sum = lines_filter.map(x => Get_Lines_Sum(x))

EXPLANATION: NOW WE START THE COMMUTATION AND PRINT THE REQUIRED RESULT IN THE CONSOLE.

CODE: ssc.start() --> FOR STARTING COMMUTATION

CODE: ssc.awaitTermination() --> WAITS FOR TERMINATION OF THE COMMUTATION

EXPLANATION: NOW AFTER ENTERING THE CODE WE WILL NOW PROVIDE THE INPUT STREAM SO FOR THAT WE NEED TO START THE "NETCAT" SERVER AND ENTER SOME INPUT STRING. THE NETCAT SERVER SHOULD BE STARTED AND THE STRINGS SHOULD BE ENTERED BEFORE RUNNING THE SCALA APPLICATION FOR THE COUNT OPERATION.

CODE: nc -lk 9999

EXPLANATION: AFTER STARING THE NETCAT SERVER AND ENTERING THE INPUT STRING WE NOW START OUR SCALA APPLCIATION AND THEN THE SPARK STREAMING STARTS IN THE CONSOLE. REFER THE SCREENSHOT FOR OUTPUT.

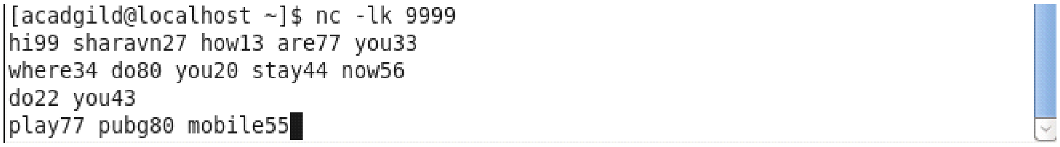
SOLUTION REPORT:

```
Spark Streaming Assignment Task 1
Using Spark's default log4j profile:
org/apache/spark/log4j-defaults.properties
19/03/18 12:27:23 INFO SparkContext: Running Spark version 2.2.1
19/03/18 12:27:24 WARN NativeCodeLoader: Unable to load native-hadoop
library for your platform... using builtin-java classes where applicable
19/03/18 12:27:25 WARN Utils: Your hostname, localhost.localdomain
resolves to a loopback address: 127.0.0.1; using 192.168.0.111 instead (on
interface eth17)
19/03/18 12:27:25 WARN Utils: Set SPARK_LOCAL_IP if you need to bind to
another address
19/03/18 12:27:25 INFO SparkContext: Submitted application: OddLines
19/03/18 12:27:25 INFO SecurityManager: Changing view acls to: acadgild
19/03/18 12:27:25 INFO SecurityManager: Changing modify acls to: acadgild
19/03/18 12:27:25 INFO SecurityManager: Changing view acls groups to:
19/03/18 12:27:25 INFO SecurityManager: Changing modify acls groups to:
19/03/18 12:27:25 INFO SecurityManager: SecurityManager: authentication
disabled; ui acls disabled; users  with view permissions: Set(acadgild);
groups with view permissions: Set(); users  with modify permissions:
Set(acadgild); groups with modify permissions: Set()
19/03/18 12:27:26 INFO Utils: Successfully started service 'sparkDriver'
on port 46739.
19/03/18 12:27:26 INFO SparkEnv: Registering MapOutputTracker
19/03/18 12:27:26 INFO SparkEnv: Registering BlockManagerMaster
19/03/18 12:27:26 INFO BlockManagerMasterEndpoint: Using
org.apache.spark.storage.DefaultTopologyMapper for getting topology
information
19/03/18 12:27:26 INFO BlockManagerMasterEndpoint:
BlockManagerMasterEndpoint up
19/03/18 12:27:26 INFO DiskBlockManager: Created local directory at
/tmp/blockmgr-426fa159-407e-4b98-a430-71f5f7a249e5
19/03/18 12:27:26 INFO MemoryStore: MemoryStore started with capacity 111.2
MB
19/03/18 12:27:26 INFO SparkEnv: Registering OutputCommitCoordinator
19/03/18 12:27:27 INFO Utils: Successfully started service 'SparkUI' on
port 4040.
19/03/18 12:27:27 INFO SparkUI: Bound SparkUI to 0.0.0.0, and started at
http://192.168.0.111:4040
19/03/18 12:27:27 INFO Executor: Starting executor ID driver on host
localhost
19/03/18 12:27:27 INFO Utils: Successfully started service
'org.apache.spark.network.netty.NettyBlockTransferService' on port
41082.
19/03/18 12:27:27 INFO NettyBlockTransferService: Server created on
192.168.0.111:41082
```

```
19/03/18 12:27:27 INFO BlockManager: Using
org.apache.spark.storage.RandomBlockReplicationPolicy for block
replication policy
19/03/18 12:27:27 INFO BlockManagerMaster: Registering BlockManager
BlockManagerId(driver, 192.168.0.111, 41082, None)
19/03/18 12:27:27 INFO BlockManagerMasterEndpoint: Registering block
manager 192.168.0.111:41082 with 111.2 MB RAM, BlockManagerId(driver,
192.168.0.111, 41082, None)
19/03/18 12:27:27 INFO BlockManagerMaster: Registered BlockManager
BlockManagerId(driver, 192.168.0.111, 41082, None)
19/03/18 12:27:27 INFO BlockManager: Initialized BlockManager:
BlockManagerId(driver, 192.168.0.111, 41082, None)
Spark Context Created
Spark Streaming Context Created
Lines With Odd Sum
Sum of the other Numbers in ODD Lines
19/03/18 12:27:31 WARN RandomBlockReplicationPolicy: Expecting 1 replicas
with only 0 peer/s.
19/03/18 12:27:31 WARN BlockManager: Block input-0-1552892251200
replicated to only 0 peer(s) instead of 1 peers
-------------------------------------------
Time: 1552892260000 ms
-------------------------------------------
hi99 sharavn27 how13 are77 you33
do22 you43

-------------------------------------------
Time: 1552892260000 ms
-------------------------------------------
62.0

-------------------------------------------
Time: 1552892280000 ms
-------------------------------------------

-------------------------------------------
Time: 1552892280000 ms
-------------------------------------------

-------------------------------------------
Time: 1552892300000 ms
-------------------------------------------

-------------------------------------------
Time: 1552892300000 ms
-------------------------------------------

-------------------------------------------
Time: 1552892320000 ms
-------------------------------------------

-------------------------------------------
Time: 1552892320000 ms
```

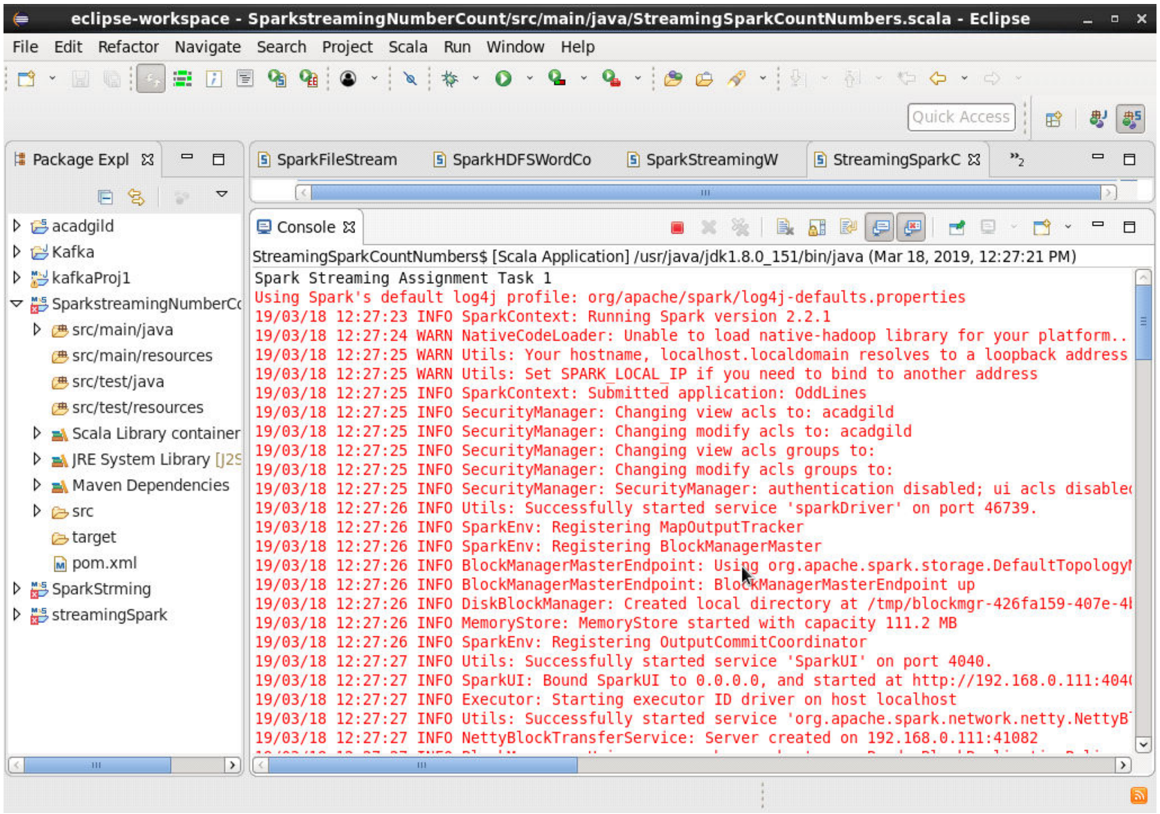
OUTPUT:

NETCAT SERVER

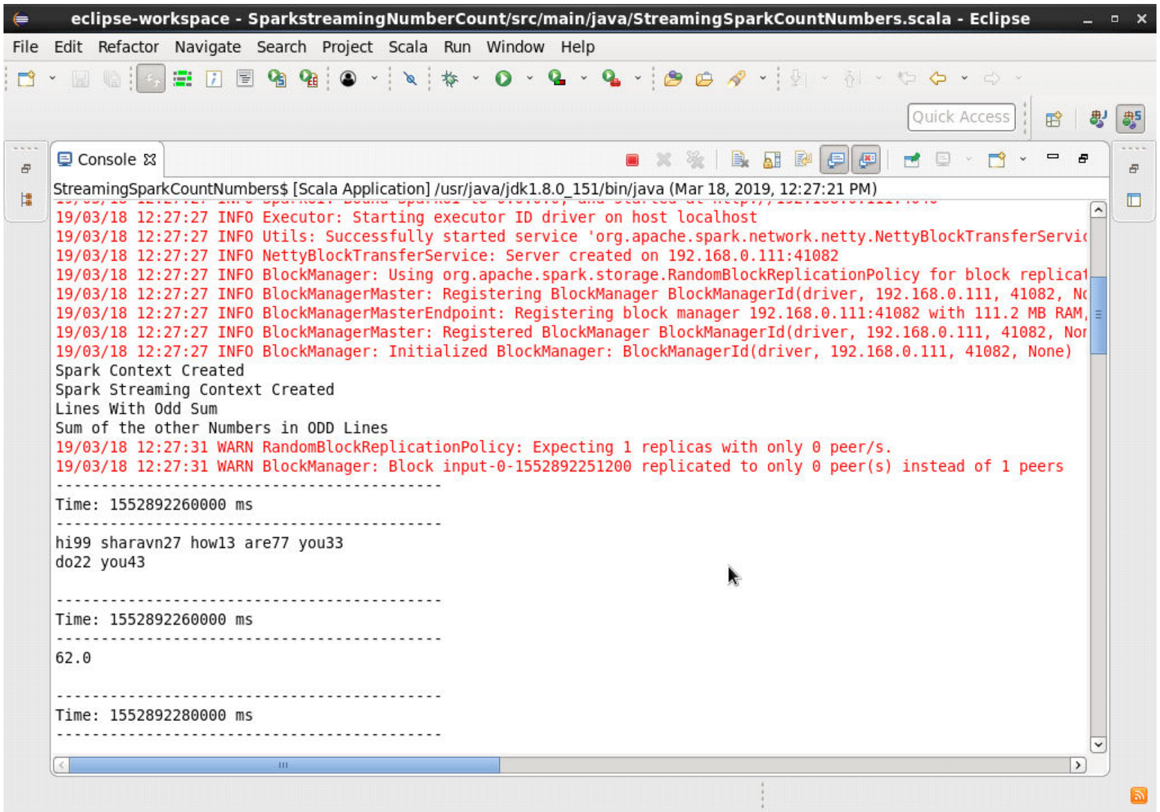


```
[acadgild@localhost ~]$ nc -lk 9999
hi99 sharavn27 how13 are77 you33
where34 do80 you20 stay44 now56
do22 you43
play77 pubg80 mobile55
```

CONSOLE:



```
StreamingSparkCountNumbers$ [Scala Application] /usr/java/jdk1.8.0_151/bin/java (Mar 18, 2019, 12:27:21 PM)
Spark Streaming Assignment Task 1
Using Spark's default log4j profile: org/apache/spark/log4j-defaults.properties
19/03/18 12:27:23 INFO SparkContext: Running Spark version 2.2.1
19/03/18 12:27:24 WARN NativeCodeLoader: Unable to load native-hadoop library for your platform..
19/03/18 12:27:25 WARN Utils: Your hostname, localhost.localdomain resolves to a loopback address
19/03/18 12:27:25 WARN Utils: Set SPARK_LOCAL_IP if you need to bind to another address
19/03/18 12:27:25 INFO SparkContext: Submitted application: OddLines
19/03/18 12:27:25 INFO SecurityManager: Changing view acls to: acadgild
19/03/18 12:27:25 INFO SecurityManager: Changing modify acls to: acadgild
19/03/18 12:27:25 INFO SecurityManager: Changing view acls groups to:
19/03/18 12:27:25 INFO SecurityManager: Changing modify acls groups to:
19/03/18 12:27:25 INFO SecurityManager: SecurityManager: authentication disabled; ui acls disable
19/03/18 12:27:26 INFO Utils: Successfully started service 'sparkDriver' on port 46739.
19/03/18 12:27:26 INFO SparkEnv: Registering MapOutputTracker
19/03/18 12:27:26 INFO SparkEnv: Registering BlockManagerMaster
19/03/18 12:27:26 INFO BlockManagerMasterEndpoint: Using org.apache.spark.storage.DefaultTopology
19/03/18 12:27:26 INFO BlockManagerMasterEndpoint: BlockManagerMasterEndpoint up
19/03/18 12:27:26 INFO DiskBlockManager: Created local directory at /tmp/blockmgr-426fa159-407e-4
19/03/18 12:27:26 INFO MemoryStore: MemoryStore started with capacity 111.2 MB
19/03/18 12:27:26 INFO SparkEnv: Registering OutputCommitCoordinator
19/03/18 12:27:27 INFO Utils: Successfully started service 'SparkUI' on port 4040.
19/03/18 12:27:27 INFO SparkUI: Bound SparkUI to 0.0.0.0, and started at http://192.168.0.111:404
19/03/18 12:27:27 INFO Executor: Starting executor ID driver on host localhost
19/03/18 12:27:27 INFO Utils: Successfully started service 'org.apache.spark.network.netty.NettyB
19/03/18 12:27:27 INFO NettyBlockTransferService: Server created on 192.168.0.111:41082
```



eclipse-workspace - SparkstreamingNumberCount/src/main/java/StreamingSparkCountNumbers.scala - Eclipse
File Edit Refactor Navigate Search Project Scala Run Window Help
Quick Access
Console

StreamingSparkCountNumbers$ [Scala Application] /usr/java/jdk1.8.0_151/bin/java (Mar 18, 2019, 12:27:21 PM)

```
19/03/18 12:27:27 INFO Executor: Starting executor ID driver on host localhost
19/03/18 12:27:27 INFO Utils: Successfully started service 'org.apache.spark.network.netty.NettyBlockTransferServic
19/03/18 12:27:27 INFO NettyBlockTransferService: Server created on 192.168.0.111:41082
19/03/18 12:27:27 INFO BlockManager: Using org.apache.spark.storage.RandomBlockReplicationPolicy for block replicat
19/03/18 12:27:27 INFO BlockManagerMaster: Registering BlockManager BlockManagerId(driver, 192.168.0.111, 41082, No
19/03/18 12:27:27 INFO BlockManagerMasterEndpoint: Registering block manager 192.168.0.111:41082 with 111.2 MB RAM,
19/03/18 12:27:27 INFO BlockManagerMaster: Registered BlockManager BlockManagerId(driver, 192.168.0.111, 41082, Nor
19/03/18 12:27:27 INFO BlockManager: Initialized BlockManager: BlockManagerId(driver, 192.168.0.111, 41082, None)
Spark Context Created
Spark Streaming Context Created
Lines With Odd Sum
Sum of the other Numbers in ODD Lines
19/03/18 12:27:31 WARN RandomBlockReplicationPolicy: Expecting 1 replicas with only 0 peer/s.
19/03/18 12:27:31 WARN BlockManager: Block input-0-1552892251200 replicated to only 0 peer(s) instead of 1 peers
-------------------------------------------
Time: 1552892260000 ms
-------------------------------------------
hi99 sharavn27 how13 are77 you33
do22 you43

-------------------------------------------
Time: 1552892260000 ms
-------------------------------------------
62.0

-------------------------------------------
Time: 1552892280000 ms
-------------------------------------------
```

Task 2:

Read two streams
1. List of strings input by user
2. Real-time set of offensive words
Find the word count of the offensive words inputted by the user as per the real-time set of offensive word

CODE FOR OFFENSIVE WORD COUNT

```
import org.apache.spark.{SparkConf, SparkContext}
import org.apache.spark.streaming.{Seconds, StreamingContext}

object StreamingOffensive_WordCount {
  def main(args: Array[String]): Unit = {

  println("Spark Streaming Assignment Task 2")

    val conf = new SparkConf().setMaster("local[2]").setAppName("Spark
Offensive WordCOunt")
    val sc = new SparkContext(conf)

    sc.setLogLevel("WARN")
    println("Spark Context Created")

    val offensive_word_list: Set[String] = Set("idiot", "stupid", "fool",
"nonsense", "useless", "bad")
```

```
    println(s"$offensive_word_list")

    val ssc = new StreamingContext(sc, Seconds(20))
    println("Spark Streaming Context Created")

    val  lines = ssc.socketTextStream(hostname = "localhost", port =9999)

    val words = lines.flatMap(_.split(" ")).map(x => x)

    val offensive_WordCount = words.filter(x =>
offensive_word_list.contains(x)).map( x => (x,1)).reduceByKey(_+_)

    println("Offensive Word Count ="+offensive_WordCount)

    ssc.start()
    ssc.awaitTermination()

  }
}
```

EXPLANATION: CREATED MAVEN PROJECT AND ADD ALL THE DEPENDENCIES. THEN CREATED SCALA OBJECT "StreamingOffensive_WordCount". THEN IMPORTED NECESSARY PACKAGES FOR SPARK STREAMING TO WORK. THEN CREATED OBJECT FOR SparkConf() AS "conf" AND SET THE MASTER TO "local[2]". THEN CREATED SPARK CONTEXT OBJECT "sc".THEN WE NEED TO SET SOME OFFENSIVE WORD LIST SO THAT WHEN THE STREAMING STARTS IT CHECKS THE OFFENSIVE WORDS THAT ARE BEEN SET AND THIS WILL BE READ FROM INPUT STREAM FOR WORD COUNT.

CODE: val offensive_word_list: Set[String] = Set("idiot",   "stupid", "fool", "nonsense", "useless", "bad")

println(s"$offensive_word_list")

EXPLANTION: THEN CREATED OBJECT FOR STREAMING CONTEXT "ssc" WITH WORKING THREAD AND BATCH INTERVAL SET TO " 20 s".

CODE: val ssc = new StreamingContext(sc, Seconds(20))

EXPLANATION: AFTER THAT CREATED A DSTREAM THAT WILL CONNECT TO HOSTNAME "localhost" AND PORT "9999".

CODE: val lines = ssc.socketTextStream(hostname = "localhost", port = 9999)

EXPLANATION: NOW WE ARE SPLITTING EACH LINE INTO WORDS

CODE: val words = lines.flatMap(_.split(" ")).map(x => x)

EXPLANATION: NOW WE ARE TAKING OUT THE OFFENSIVE WORDS FROM THE INPUT STREAM USING "filter" FUNCTION. AND USING SET AND COUNT WE ARE COUNTING THE OFFENSIVE WORDS.

**CODE: val offensive_WordCount = words.filter(x =>
offensive_word_list.contains(x)).map(x =**

(x,1)).reduceByKey(_+_)

EXPLANATION: NOW WE START THE COMMUTATION AND PRINT THE REQUIRED RESULT IN THE CONSOLE.

CODE: ssc.start() --> FOR STARTING COMMUTATION

CODE: ssc.awaitTermination() --> WAITS FOR TERMINATION OF THE COMMUTATION

EXPLANATION: NOW AFTER ENTERING THE CODE WE WILL NOW PROVIDE THE INPUT STREAM SO FOR THAT WE NEED TO START THE "NETCAT" SERVER AND ENTER SOME INPUT STRING. THE NETCAT SERVER SHOULD BE STARTED AND THE STRINGS SHOULD BE ENTERED BEFORE RUNNING THE SCALA APPLICATION FOR THE COUNT OPERATION.

CODE: nc -lk 9999

EXPLANATION: AFTER STARING THE NETCAT SERVER AND ENTERING THE INPUT STRING WE NOW START OUR SCALA APPLCIATION AND THEN THE SPARK STREAMING STARTS IN THE CONSOLE. REFER THE SCREENSHOT FOR OUTPUT.

SOLUTION REPORT:

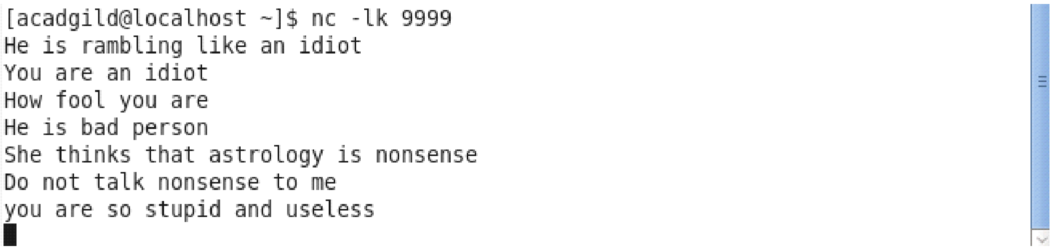
```
Spark Streaming Assignment Task 2
Using Spark's default log4j profile:
org/apache/spark/log4j-defaults.properties
19/03/18 13:19:00 INFO SparkContext: Running Spark version 2.2.1
19/03/18 13:19:01 WARN NativeCodeLoader: Unable to load native-hadoop
library for your platform... using builtin-java classes where applicable
19/03/18 13:19:02 WARN Utils: Your hostname, localhost.localdomain
resolves to a loopback address: 127.0.0.1; using 192.168.0.111 instead (on
interface eth17)
19/03/18 13:19:02 WARN Utils: Set SPARK_LOCAL_IP if you need to bind to
another address
19/03/18 13:19:02 INFO SparkContext: Submitted application: Spark
Offensive_WordCount
19/03/18 13:19:02 INFO SecurityManager: Changing view acls to: acadgild
19/03/18 13:19:02 INFO SecurityManager: Changing modify acls to: acadgild
19/03/18 13:19:02 INFO SecurityManager: Changing view acls groups to:
19/03/18 13:19:02 INFO SecurityManager: Changing modify acls groups to:
19/03/18 13:19:02 INFO SecurityManager: SecurityManager: authentication
disabled; ui acls disabled; users  with view permissions: Set(acadgild);
groups with view permissions: Set(); users  with modify permissions:
Set(acadgild); groups with modify permissions: Set()
19/03/18 13:19:02 INFO Utils: Successfully started service 'sparkDriver'
on port 44096.
19/03/18 13:19:02 INFO SparkEnv: Registering MapOutputTracker
19/03/18 13:19:02 INFO SparkEnv: Registering BlockManagerMaster
19/03/18 13:19:02 INFO BlockManagerMasterEndpoint: Using
org.apache.spark.storage.DefaultTopologyMapper for getting topology
information
19/03/18 13:19:02 INFO BlockManagerMasterEndpoint:
BlockManagerMasterEndpoint up
```

```
19/03/18 13:19:03 INFO DiskBlockManager: Created local directory at
/tmp/blockmgr-4274647a-1f19-4acc-ae0a-cea77631d487
19/03/18 13:19:03 INFO MemoryStore: MemoryStore started with capacity 111.2
MB
19/03/18 13:19:03 INFO SparkEnv: Registering OutputCommitCoordinator
19/03/18 13:19:03 INFO Utils: Successfully started service 'SparkUI' on
port 4040.
19/03/18 13:19:04 INFO SparkUI: Bound SparkUI to 0.0.0.0, and started at
http://192.168.0.111:4040
19/03/18 13:19:04 INFO Executor: Starting executor ID driver on host
localhost
19/03/18 13:19:04 INFO Utils: Successfully started service
'org.apache.spark.network.netty.NettyBlockTransferService' on port
45966.
19/03/18 13:19:04 INFO NettyBlockTransferService: Server created on
192.168.0.111:45966
19/03/18 13:19:04 INFO BlockManager: Using
org.apache.spark.storage.RandomBlockReplicationPolicy for block
replication policy
19/03/18 13:19:04 INFO BlockManagerMaster: Registering BlockManager
BlockManagerId(driver, 192.168.0.111, 45966, None)
19/03/18 13:19:04 INFO BlockManagerMasterEndpoint: Registering block
manager 192.168.0.111:45966 with 111.2 MB RAM, BlockManagerId(driver,
192.168.0.111, 45966, None)
19/03/18 13:19:04 INFO BlockManagerMaster: Registered BlockManager
BlockManagerId(driver, 192.168.0.111, 45966, None)
19/03/18 13:19:04 INFO BlockManager: Initialized BlockManager:
BlockManagerId(driver, 192.168.0.111, 45966, None)
Spark Context Created
Set(useless, fool, bad, stupid, nonsense, idiot)
Spark Streaming Context Created
19/03/18 13:19:07 WARN RandomBlockReplicationPolicy: Expecting 1 replicas
with only 0 peer/s.
19/03/18 13:19:07 WARN BlockManager: Block input-0-1552895347600
replicated to only 0 peer(s) instead of 1 peers
-------------------------------------------
Time: 1552895360000 ms
-------------------------------------------
(fool,1)
(useless,1)
(bad,1)
(nonsense,2)
(stupid,1)
(idiot,2)

-------------------------------------------
Time: 1552895380000 ms
-------------------------------------------

-------------------------------------------
Time: 1552895400000 ms
-------------------------------------------
```

```
-------------------------------------------
Time: 1552895420000 ms
-------------------------------------------
```

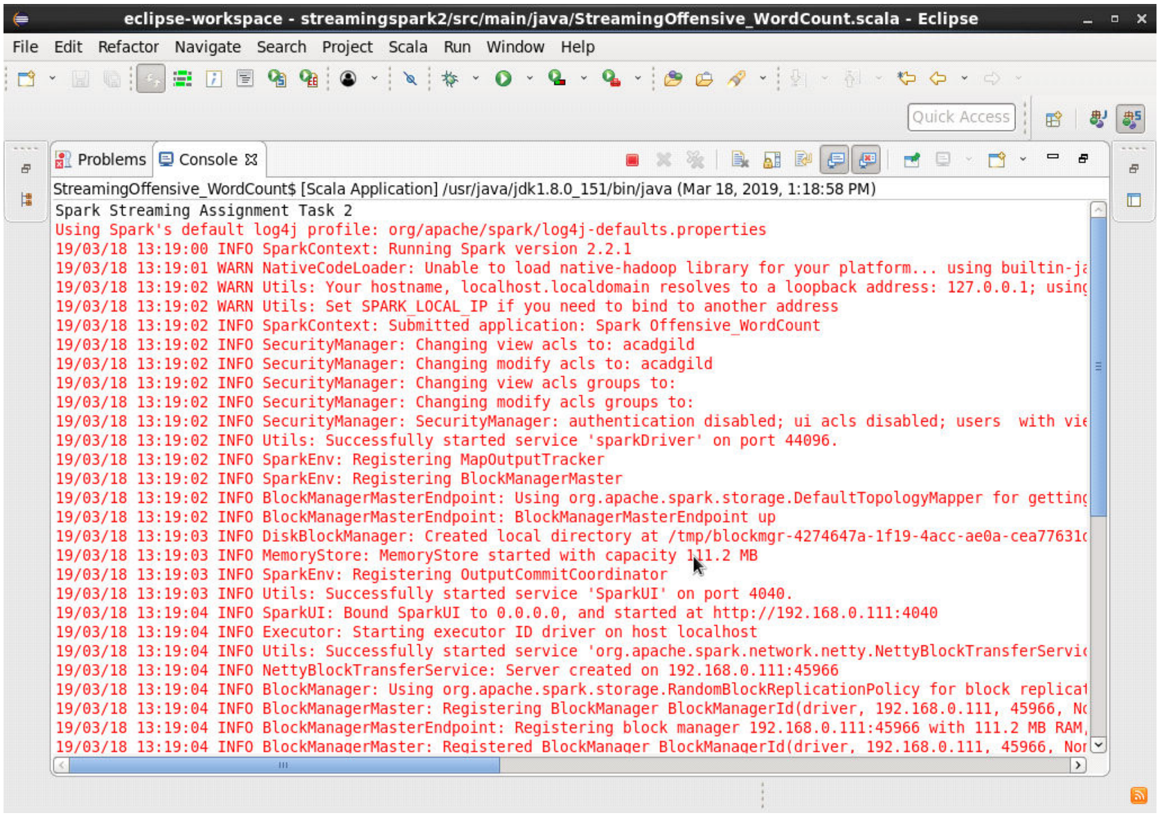
OUTPUT:

NETCAT SERVER:



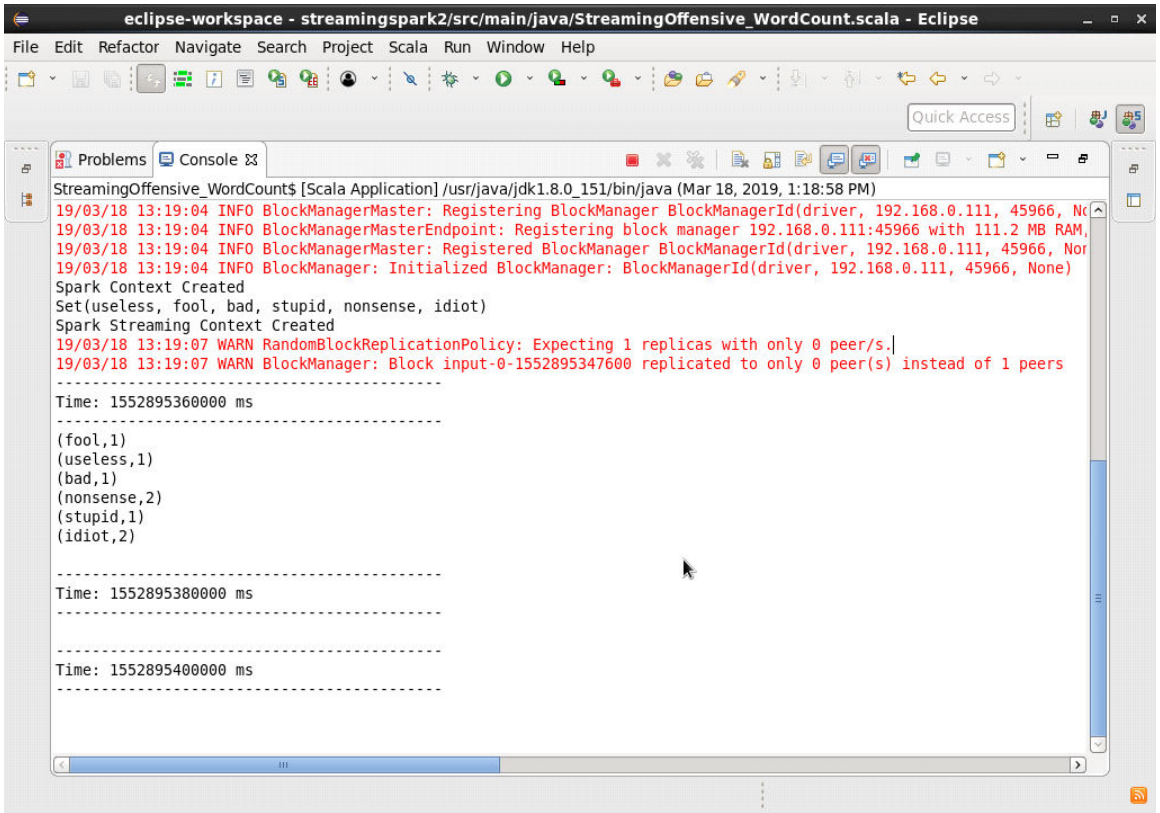
```
[acadgild@localhost ~]$ nc -lk 9999
He is rambling like an idiot
You are an idiot
How fool you are
He is bad person
She thinks that astrology is nonsense
Do not talk nonsense to me
you are so stupid and useless
```

CONSOLE:


eclipse-workspace - streamingspark2/src/main/java/StreamingOffensive_WordCount.scala - Eclipse
File Edit Refactor Navigate Search Project Scala Run Window Help
Quick Access
Problems
Console

StreamingOffensive_WordCount$ [Scala Application] /usr/java/jdk1.8.0_151/bin/java (Mar 18, 2019, 1:18:58 PM)

```
Spark Streaming Assignment Task 2
Using Spark's default log4j profile: org/apache/spark/log4j-defaults.properties
19/03/18 13:19:00 INFO SparkContext: Running Spark version 2.2.1
19/03/18 13:19:01 WARN NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-ja
19/03/18 13:19:02 WARN Utils: Your hostname, localhost.localdomain resolves to a loopback address: 127.0.0.1; using
19/03/18 13:19:02 WARN Utils: Set SPARK_LOCAL_IP if you need to bind to another address
19/03/18 13:19:02 INFO SparkContext: Submitted application: Spark Offensive_WordCount
19/03/18 13:19:02 INFO SecurityManager: Changing view acls to: acadgild
19/03/18 13:19:02 INFO SecurityManager: Changing modify acls to: acadgild
19/03/18 13:19:02 INFO SecurityManager: Changing view acls groups to:
19/03/18 13:19:02 INFO SecurityManager: Changing modify acls groups to:
19/03/18 13:19:02 INFO SecurityManager: SecurityManager: authentication disabled; ui acls disabled; users  with vie
19/03/18 13:19:02 INFO Utils: Successfully started service 'sparkDriver' on port 44096.
19/03/18 13:19:02 INFO SparkEnv: Registering MapOutputTracker
19/03/18 13:19:02 INFO SparkEnv: Registering BlockManagerMaster
19/03/18 13:19:02 INFO BlockManagerMasterEndpoint: Using org.apache.spark.storage.DefaultTopologyMapper for getting
19/03/18 13:19:02 INFO BlockManagerMasterEndpoint: BlockManagerMasterEndpoint up
19/03/18 13:19:03 INFO DiskBlockManager: Created local directory at /tmp/blockmgr-4274647a-1f19-4acc-ae0a-cea77631c
19/03/18 13:19:03 INFO MemoryStore: MemoryStore started with capacity 111.2 MB
19/03/18 13:19:03 INFO SparkEnv: Registering OutputCommitCoordinator
19/03/18 13:19:03 INFO Utils: Successfully started service 'SparkUI' on port 4040.
19/03/18 13:19:04 INFO SparkUI: Bound SparkUI to 0.0.0.0, and started at http://192.168.0.111:4040
19/03/18 13:19:04 INFO Executor: Starting executor ID driver on host localhost
19/03/18 13:19:04 INFO Utils: Successfully started service 'org.apache.spark.network.netty.NettyBlockTransferServic
19/03/18 13:19:04 INFO NettyBlockTransferService: Server created on 192.168.0.111:45966
19/03/18 13:19:04 INFO BlockManager: Using org.apache.spark.storage.RandomBlockReplicationPolicy for block replicat
19/03/18 13:19:04 INFO BlockManagerMaster: Registering BlockManager BlockManagerId(driver, 192.168.0.111, 45966, No
19/03/18 13:19:04 INFO BlockManagerMasterEndpoint: Registering block manager 192.168.0.111:45966 with 111.2 MB RAM,
19/03/18 13:19:04 INFO BlockManagerMaster: Registered BlockManager BlockManagerId(driver, 192.168.0.111, 45966, Nor
```


eclipse-workspace - streamingspark2/src/main/java/StreamingOffensive_WordCount.scala - Eclipse
File
Edit
Refactor
Navigate
Search
Project
Scala
Run
Window
Help
Quick Access
Problems
Console

StreamingOffensive_WordCount$ [Scala Application] /usr/java/jdk1.8.0_151/bin/java (Mar 18, 2019, 1:18:58 PM)

```
19/03/18 13:19:04 INFO BlockManagerMaster: Registering BlockManager BlockManagerId(driver, 192.168.0.111, 45966, No
19/03/18 13:19:04 INFO BlockManagerMasterEndpoint: Registering block manager 192.168.0.111:45966 with 111.2 MB RAM,
19/03/18 13:19:04 INFO BlockManagerMaster: Registered BlockManager BlockManagerId(driver, 192.168.0.111, 45966, Nor
19/03/18 13:19:04 INFO BlockManager: Initialized BlockManager: BlockManagerId(driver, 192.168.0.111, 45966, None)
Spark Context Created
Set(useless, fool, bad, stupid, nonsense, idiot)
Spark Streaming Context Created
19/03/18 13:19:07 WARN RandomBlockReplicationPolicy: Expecting 1 replicas with only 0 peer/s.
19/03/18 13:19:07 WARN BlockManager: Block input-0-1552895347600 replicated to only 0 peer(s) instead of 1 peers
-------------------------------------------
Time: 1552895360000 ms
-------------------------------------------
(fool,1)
(useless,1)
(bad,1)
(nonsense,2)
(stupid,1)
(idiot,2)

-------------------------------------------
Time: 1552895380000 ms
-------------------------------------------

-------------------------------------------
Time: 1552895400000 ms
-------------------------------------------
```