and temperature for each year for NCDC dataset package temp; public class Anerage Mapper Extends Mapper Clong Writable, Text, Text, Intwritable & Context context) Humans Iobxception, Intermupted Exception 9 int temperature; String line = Value, to String () String year = line. substring (15,19); if ( lind, champ+ (8) == '+') } tomp mature = Integer, parse Int ( line. substring (83, 82)); Jelse 9 temperature = luteger panselut(line, substring(87,92)) String quality = line substring (92,93);
if (temperature! = 9999 h h quality matches (201459]")) Context. write (new Text (year), new Inthiritable (temperatural); public class Avenage Reduce extends Reducer < Text, IntWritable, text, IntWritable > 9 public void reduce [Text Key, Iterable < Tutw-stable > Values, Reduce < Text, Intwritable, Text, Intwritable > . context context) Human's 100xception, Interrupted Gaception 9 int max-temp=0; int count=0; for (Int Writable value; value) 9 max-sup += value.get() count ++; context. write (key, newlet Writable (max-templeomit)); output note ats - cut larg temp-output dis/ put-x-00000 Find the mean max temp for every t month package meaniax; public class Mean Max Mappen extendo Mappen < Long Waisable, Text, Text, Int Writable > 9 public static final int MISSING =9999; public void map (Longwritable key, Text, value, Mapper < long Writable, Text, text , IntWritable > Context context) throws 10 Exception, Interrupted Exception 9 int temperature; String month = line substring (19,21); if (line chanA+(87) == '+') q temperature = Integer punseInt(line. substring (88,32)); y else y temperature = Integer. parselut (line. Substring 1 string quality = line substring (92,93); if (temperature != 9999 h h quality matches ("[01455]), context, write (new Text (month); new IntWritable (temperature)); public class Mean Max Reduce extends Reduce < Text, lutwritable, Text, lutwritable > 9 public void reduce (Text key, Herable < hutwritable> values, reducen < Text, Intivoitable, Text, Inthritable > Context context) throws IOGxception, Interrupted Exception 9

int wax - temp = 0 of your two - after affect int total temp=0 înt count =0; b) Find the mean wax empoduquest boild for (Int distable Nalue istalue) Francis of the string ( tempor max temp) I dily 3 colores max temps down w in a see with the residentity in sound ropper, suli if re ( countient; =3)(1) gen bior silding the other side of side of silding to tal-temp = max - temp; (1 - El Jevinte de 2. 2000 Count = 0 foi de de de la company de la compa if [ King, champh(87) [= + ) context write (key new 1 ut Writable (to tal temp) days) temponature = lateger. paracina (line. subation OP - nots of s - cat fixean - wax - o whout/ The frankling of the of the EE - wantering and ) for with was to ( new Text 1880 . Anthou · // d'Schirey must ) stabilitate position class rum Play illuste Extende Reclare P< slobstip-with; tast, slobelishetul, tast ... public void reduce (Text key ) Porathe , troit, all tirritual. txet = recorder, auch v ( tradical a mining & identification formers Turning and Internal to grand &

Mapreduce program to sort content in an characterist order listing only top 10 maximum alphabetical of words public class Top Mappen extends Mappen < 0 bject, Text, Text,
Int Writable > 9 private static final Intwistable one = new (utwistable()); private Text word = New Text (); private string tokums=[-1] # < > 11 = 11 [1] 11 \* /1111; ;;; public void map l'object key, text value, mappin zoigect, Text, Text (inthistable) Context Context) Human's 106xception, Intermited Exception9 String charline = value, to String (), tolomen ( replace MI (mis. to kuns;") String Tokenize itx-very To next Tokul 1. Imml); String To kunze it = new string Tokemize (chambine); while (itr. has More To kener()) this word set (it's next Tokel I stuml); con lext. write (this word, one); y y y public class top Meeduce extends Reducer LText, but Writable, text, lutwritable > 9 private Map < Text, Int Writable > cran + Map = new Hash Map (71); public void reduce (Text key, Eterable < Int Wistallo values; Reducen < Text, lut Writable, Text, IntWritable> context context) Amours 10 Exception, Interrupted Exception 9 int sum=0; for (Intwritable val: value) sum+ = val.get();

this - count Map put (new Text (key), new butwistable (sum)). protected void cleanup (Reduce Reducer < Text, Int Wortable, Text, Intwintable) bentext context) throws IO Exception; Interrupted Exceptions 4 Interrupted Exception 9 Mas etext, Intwitable > So sted Map = Misentile borthy will

(this (countmap)); 110 -11 [1 ] 1 0 / into scumbin = 0 ) jor (Text key: Sorted Map kycett)) 9 topos request, subject to the facility (winder to == 20) div break; Sorted Map get (ky)); provide Commission selve all more prins Out of her in senal of print 2 an march win hellow is 21 ni mas hadeep 1 world 1 in introduction by execution of his wind particularly the state of recent (1 Joo, lev - + Nows

mede prophedice program to dernierstrate join penation void map (Longwintable key, Text value, Output Glecher

Litert pair, Text > Output, Reporter)

Hurows 10 Groephion string V= Value, toString [] String [] and = V; split ("\t"); Output, collect (hun Textpair [sud [i];"] in polymenter atables = atab santon has reduce data. Willet: Di Print walks wind on Sula IDE public void reduce (Textpaix, key, Iterable ¿Texts value, Output Collection & Text, Text > Output, Reporter sep) Human's 10 baception ("b) of all text body Id = new Text (values next ());
which (values, in text Ci]) 1 text mode = valuesnext(); Text univalue = new text ( mode Id. 6 String ( )
" | | | " | node to
String()) Output, collect (hey getherstl), output); Il & holdoop jan throws / holljoni. jan lingut / data itst foutput & hadoup of s - cat output -part - x-00000

Scala IDE (a) Word Count on Scala Scale Shell val data = sc. lextrile ("spank.tx+")

data. collect; Val Splitdet a = data Flert Map (line > line splitt" (1)/11) togsplit data lollet; Lister val mapdata = Split data. map (word = (word 1))); : ([[] love] | map data collect; Lal reduce data=mapdata. reduce By Key (-+), reduce data. collect; (b) Print Mello World on Scala IDE package hellowordender blev Object hello granilles trophec def main (anys: Array (String)) ((1) brave carred ) + xet war = lot printle "Mello World") ( [ I ] FAN IN , AWARD WHILE Text our relias = crow text (note Id. 626). igher (transle god) tolled topled 100 the quil majer milled somet maje gooder of 9 is a straig trypus tes - eft graber f

LABO Using RDD & FlatMap count how many time each word applans in a file to write out a list of words whose count is strictly queater than a using spark val text File = Sc. text File ("/ home (wc. +x4"); val counter = textile fattap (amit); line. split ("") 1, map (word=> (word,1)) reduce By Key (-+-) import Scale. cellect, immtable, cistmap val Sorted = List map (count, collect seat with (--27--2);-\*) printlin (sorted) Jos (IK, V) < - sorted) if (V>4) print (K+",")

print(v)

print(v) 0 Wput Spark 7

Madop 14