(base) leonid@leonid-Aspire-A315-42:~$ touch cellmarkfiletable.txt

(base) leonid@leonid-Aspire-A315-42:~$ chromhmm --ver

chromhmm: command not found

(base) leonid@leonid-Aspire-A315-42:~$ java -mx5000M -jar /ChromHMM/ChromHMM.jar BinarizeBam -b 200 /ChromHMM/CHROMSIZES/hg19.txt cellmarkfiletable.txt binarizedData

Error: Unable to access jarfile /ChromHMM/ChromHMM.jar

(base) leonid@leonid-Aspire-A315-42:~$ cd ~

(base) leonid@leonid-Aspire-A315-42:~$ java -mx5000M -jar ~/ChromHMM/ChromHMM.jar BinarizeBam -b 200 /ChromHMM/CHROMSIZES/hg19.txt cellmarkfiletable.txt binarizedDatausage BinarizeBam [-b binsize][-c controldir][-e offsetend][-f foldthresh][-g signalthresh][-gzip][[-o outputcontroldir][-p poissonthresh][-paired|[-mixed][-center][-n shift][-peaks [-i splitindex]][-s offsetstart][-splitcols [-k splitcolindex][-m numsplitcols]][-splitrows [-j numsplitbins]][-stacked][-strictthresh][-t outputsignaldir][-u pseudocountcontrol][-w flankwidthcontrol] chromosomelengthfile inputbamdir cellmarkfiletable outputbinarydir

(base) leonid@leonid-Aspire-A315-42:~$ java -mx5000M -jar ~/ChromHMM/ChromHMM.jar BinarizeBam -b 200 ~/ChromHMM/CHROMSIZES/hg19.txt cellmarkfiletable.txt binarizedData

usage BinarizeBam [-b binsize][-c controldir][-e offsetend][-f foldthresh][-g signalthresh][-gzip][[-o outputcontroldir][-p poissonthresh][-paired|[-mixed][-center][-n shift][-peaks [-i splitindex]][-s offsetstart][-splitcols [-k splitcolindex][-m numsplitcols]][-splitrows [-j numsplitbins]][-stacked][-strictthresh][-t outputsignaldir][-u pseudocountcontrol][-w flankwidthcontrol] chromosomelengthfile inputbamdir cellmarkfiletable outputbinarydir

(base) leonid@leonid-Aspire-A315-42:~$ java -mx5000M -jar ~/ChromHMM/ChromHMM.jar BinarizeBam -b 200 ~/ChromHMM/CHROMSIZES/hg19.txt /HW3\_sem4/ cellmarkfiletable.txt binarizedData

Exception in thread "main" java.io.FileNotFoundException: cellmarkfiletable.txt (No such file or directory)

at java.base/java.io.FileInputStream.open0(Native Method)

at java.base/java.io.FileInputStream.open(FileInputStream.java:219)

at java.base/java.io.FileInputStream.<init>(FileInputStream.java:157)

at java.base/java.io.FileInputStream.<init>(FileInputStream.java:112)

at java.base/java.io.FileReader.<init>(FileReader.java:60)

at edu.mit.compbio.ChromHMM.Util.getBufferedReader(Util.java:67)

at edu.mit.compbio.ChromHMM.Preprocessing.makeBinaryDataFromBed(Preprocessing.java:1023)

at edu.mit.compbio.ChromHMM.ChromHMM.main(ChromHMM.java:13270)

(base) leonid@leonid-Aspire-A315-42:~$ java -mx5000M -jar ~/ChromHMM/ChromHMM.jar BinarizeBam -b 200 ~/ChromHMM/CHROMSIZES/hg19.txt /HW3\_sem4/ cellmarkfiletable.txt binarizedData

Exception in thread "main" java.lang.IllegalArgumentException: In cellmarkfiletable.txt NH-A H3k4me3 H3K4me3StdAlnRep1.bam ControlStdAlnRep1.bam has less than 3 columns, expecting at least 3!

at edu.mit.compbio.ChromHMM.Preprocessing.makeBinaryDataFromBed(Preprocessing.java:1047)

at edu.mit.compbio.ChromHMM.ChromHMM.main(ChromHMM.java:13270)

(base) leonid@leonid-Aspire-A315-42:~$ java -mx5000M -jar ~/ChromHMM/ChromHMM.jar BinarizeBam -b 200 ~/ChromHMM/CHROMSIZES/hg19.txt /HW3\_sem4/ cellmarkfiletable.txt binarizedData

Exception in thread "main" java.lang.IllegalArgumentException: In cellmarkfiletable.txt NH-A H3k4me3 H3K4me3StdAlnRep1.bam ControlStdAlnRep1.bam has less than 3 columns, expecting at least 3!

at edu.mit.compbio.ChromHMM.Preprocessing.makeBinaryDataFromBed(Preprocessing.java:1047)

at edu.mit.compbio.ChromHMM.ChromHMM.main(ChromHMM.java:13270)

(base) leonid@leonid-Aspire-A315-42:~$ java -mx5000M -jar ~/ChromHMM/ChromHMM.jar BinarizeBam -b 200 ~/ChromHMM/CHROMSIZES/hg19.txt /HW3\_sem4/ cellmarkfiletable.txt binarizedData

Exception in thread "main" htsjdk.samtools.util.RuntimeIOException: java.io.FileNotFoundException: /HW3\_sem4/H3K27acStdAlnRep1.bam (No such file or directory)

at htsjdk.samtools.FileInputResource$1.make(SamInputResource.java:171)

at htsjdk.samtools.FileInputResource$1.make(SamInputResource.java:165)

at htsjdk.samtools.util.Lazy.get(Lazy.java:24)

at htsjdk.samtools.FileInputResource.asUnbufferedSeekableStream(SamInputResource.java:194)

at htsjdk.samtools.FileInputResource.asUnbufferedInputStream(SamInputResource.java:199)

at htsjdk.samtools.SamReaderFactory$SamReaderFactoryImpl.open(SamReaderFactory.java:245)

at htsjdk.samtools.SamReaderFactory$SamReaderFactoryImpl.open(SamReaderFactory.java:133)

at edu.mit.compbio.ChromHMM.Preprocessing.loadGrid(Preprocessing.java:195)

at edu.mit.compbio.ChromHMM.Preprocessing.makeBinaryDataFromBed(Preprocessing.java:1188)

at edu.mit.compbio.ChromHMM.ChromHMM.main(ChromHMM.java:13270)

Caused by: java.io.FileNotFoundException: /HW3\_sem4/H3K27acStdAlnRep1.bam (No such file or directory)

at java.base/java.io.RandomAccessFile.open0(Native Method)

at java.base/java.io.RandomAccessFile.open(RandomAccessFile.java:345)

at java.base/java.io.RandomAccessFile.<init>(RandomAccessFile.java:259)

at java.base/java.io.RandomAccessFile.<init>(RandomAccessFile.java:214)

at htsjdk.samtools.seekablestream.SeekableFileStream.<init>(SeekableFileStream.java:47)

at htsjdk.samtools.FileInputResource$1.make(SamInputResource.java:169)

... 9 more

(base) leonid@leonid-Aspire-A315-42:~$ java -mx5000M -jar ~/ChromHMM/ChromHMM.jar BinarizeBam -b 200 ~/ChromHMM/CHROMSIZES/hg19.txt /HW3\_sem4/ cellmarkfiletable.txt binarizedData

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... 9 more

(base) leonid@leonid-Aspire-A315-42:~$ java -mx5000M -jar ~/ChromHMM/ChromHMM.jar BinarizeBam -b 200 ~/ChromHMM/CHROMSIZES/hg19.txt ~/HW3\_sem4/ cellmarkfiletable.txt binarizedData

Writing to file binarizedData/NH-A\_chr1\_binary.txt

Writing to file binarizedData/NH-A\_chr2\_binary.txt

Writing to file binarizedData/NH-A\_chr3\_binary.txt

Writing to file binarizedData/NH-A\_chr4\_binary.txt

Writing to file binarizedData/NH-A\_chr5\_binary.txt

Writing to file binarizedData/NH-A\_chr6\_binary.txt

Writing to file binarizedData/NH-A\_chr7\_binary.txt

Writing to file binarizedData/NH-A\_chrX\_binary.txt

Writing to file binarizedData/NH-A\_chr8\_binary.txt

Writing to file binarizedData/NH-A\_chr9\_binary.txt

Writing to file binarizedData/NH-A\_chr10\_binary.txt

Writing to file binarizedData/NH-A\_chr11\_binary.txt

Writing to file binarizedData/NH-A\_chr12\_binary.txt

Writing to file binarizedData/NH-A\_chr13\_binary.txt

Writing to file binarizedData/NH-A\_chr14\_binary.txt

Writing to file binarizedData/NH-A\_chr15\_binary.txt

Writing to file binarizedData/NH-A\_chr16\_binary.txt

Writing to file binarizedData/NH-A\_chr17\_binary.txt

Writing to file binarizedData/NH-A\_chr18\_binary.txt

Writing to file binarizedData/NH-A\_chr20\_binary.txt

Writing to file binarizedData/NH-A\_chrY\_binary.txt

Writing to file binarizedData/NH-A\_chr19\_binary.txt

Writing to file binarizedData/NH-A\_chr22\_binary.txt

Writing to file binarizedData/NH-A\_chr21\_binary.txt

Writing to file binarizedData/NH-A\_chrM\_binary.txt

(base) leonid@leonid-Aspire-A315-42:~$ java -mx5000M -jar ~/ChromHMM/ChromHMM.jar LearnModel -b 200 ~/binarizedData ~/ChromHMM\_out/ 10

usage: LearnModel [-b binsize][-color r,g,b][-d convergedelta][-e loadsmoothemission][-f inputfilelist][-gzip][-h informationsmooth][-holdcolumnorder][-holdroworder][-i outfileID][-init information|random|load][-l chromosomelengthfile][-lowmem][-m modelinitialfile][-many][-n numseq][-noautoopen][-nobed][-nobrowser][-noenrich][-noimage][-p maxprocessors][-pseudo][-printposterior][-printstatebyline][-r maxiterations][-s seed][-scalebeta][-splitrows][-stateordering emission|transition][-t loadsmoothtransition][-u coorddir][-v anchorfiledir][-x maxseconds][-z zerotransitionpower] inputdir outputdir numstates assembly

(base) leonid@leonid-Aspire-A315-42:~$ java -mx5000M -jar ~/ChromHMM/ChromHMM.jar LearnModel -b 200 ~/binarizedData ~/ChromHMM\_out/ 10 hg19

Writing to file /home/leonid/ChromHMM\_out//transitions\_10.txt

Writing to file /home/leonid/ChromHMM\_out//emissions\_10.txt

Writing to file /home/leonid/ChromHMM\_out//emissions\_10.svg

Writing to file /home/leonid/ChromHMM\_out//emissions\_10.png

Writing to file /home/leonid/ChromHMM\_out//transitions\_10.png

Writing to file /home/leonid/ChromHMM\_out//transitions\_10.svg

Writing to file /home/leonid/ChromHMM\_out//model\_10.txt

Iteration Estimated Log Likelihood Change Total Time (secs)

1 -10020431.478 - 12.0

2 -8694636.851 1325794.627 22.2

3 -8373999.651 320637.200 30.0

4 -8209868.736 164130.915 37.8

5 -8090987.356 118881.380 45.1

6 -8010946.577 80040.780 52.7

7 -7960757.205 50189.371 60.3

8 -7903214.057 57543.148 67.9

9 -7856740.553 46473.504 75.5

10 -7833687.817 23052.736 83.2

11 -7822371.830 11315.987 90.8

12 -7814662.964 7708.866 98.4

13 -7804927.021 9735.943 106.0

14 -7794417.006 10510.015 113.5

15 -7789049.427 5367.580 121.2

16 -7786322.184 2727.242 130.6

17 -7784321.901 2000.283 138.5

18 -7782493.373 1828.528 146.3

19 -7780662.630 1830.743 154.1

20 -7778768.426 1894.204 162.0

21 -7776629.782 2138.644 169.8

22 -7774287.372 2342.410 177.7

23 -7772642.902 1644.470 185.5

24 -7771902.250 740.651 195.2

25 -7771613.593 288.657 203.6

26 -7771503.011 110.583 213.9

27 -7771460.213 42.797 223.0

28 -7771443.243 16.971 231.9

29 -7771436.223 7.019 240.8

30 -7771433.100 3.124 249.8

31 -7771431.601 1.499 258.8

32 -7771430.788 0.812 267.6

33 -7771430.292 0.496 276.6

34 -7771429.959 0.333 285.6

35 -7771429.718 0.241 293.8

36 -7771429.535 0.183 301.7

37 -7771429.393 0.142 309.7

38 -7771429.280 0.113 317.7

39 -7771429.189 0.091 325.7

40 -7771429.111 0.078 333.8

41 -7771429.043 0.069 341.9

42 -7771428.996 0.046 350.0

43 -7771428.957 0.039 358.1

44 -7771428.924 0.033 366.2

45 -7771428.897 0.027 374.3

46 -7771428.873 0.023 382.4

47 -7771428.854 0.020 390.5

48 -7771428.836 0.017 398.6

49 -7771428.821 0.016 406.8

50 -7771428.809 0.012 414.9

51 -7771428.799 0.010 423.1

52 -7771428.790 0.009 431.2

53 -7771428.783 0.007 439.5

54 -7771428.777 0.006 447.8

55 -7771428.771 0.006 456.0

56 -7771428.766 0.005 464.2

57 -7771428.762 0.004 472.4

58 -7771428.758 0.003 480.7

59 -7771428.755 0.003 488.9

60 -7771428.752 0.003 497.2

61 -7771428.750 0.002 505.4

62 -7771428.748 0.002 513.6

63 -7771428.746 0.002 521.8

64 -7771428.745 0.002 530.1

65 -7771428.743 0.002 538.3

66 -7771428.742 0.001 546.6

67 -7771428.741 0.001 554.9

68 -7771428.740 0.001 563.1

Writing to file /home/leonid/ChromHMM\_out//NH-A\_10\_segments.bed

Writing to file /home/leonid/ChromHMM\_out//NH-A\_10\_dense.bed

Writing to file /home/leonid/ChromHMM\_out//NH-A\_10\_expanded.bed

Writing to file /home/leonid/ChromHMM\_out//NH-A\_10\_overlap.txt

Writing to file /home/leonid/ChromHMM\_out//NH-A\_10\_overlap.png

Writing to file /home/leonid/ChromHMM\_out//NH-A\_10\_overlap.svg

Writing to file /home/leonid/ChromHMM\_out//NH-A\_10\_RefSeqTES\_neighborhood.txt

Writing to file /home/leonid/ChromHMM\_out//NH-A\_10\_RefSeqTES\_neighborhood.png

Writing to file /home/leonid/ChromHMM\_out//NH-A\_10\_RefSeqTES\_neighborhood.svg

Writing to file /home/leonid/ChromHMM\_out//NH-A\_10\_RefSeqTSS\_neighborhood.txt

Writing to file /home/leonid/ChromHMM\_out//NH-A\_10\_RefSeqTSS\_neighborhood.png

Writing to file /home/leonid/ChromHMM\_out//NH-A\_10\_RefSeqTSS\_neighborhood.svg

Gtk-Message: 19:17:16.424: Failed to load module "canberra-gtk-module"