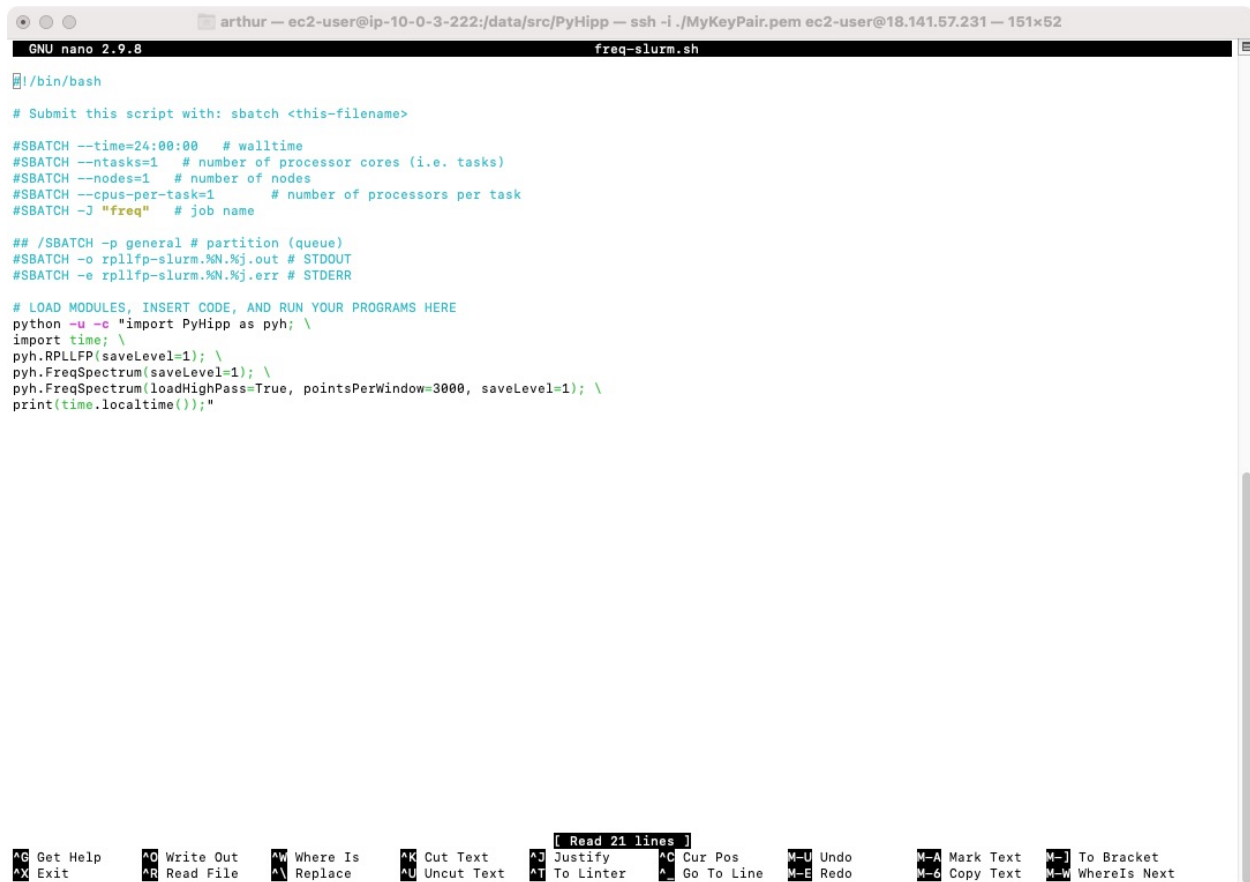


Lab 9 Report

1. Screenshot of the freq-slurm.sh script from Step 8



The screenshot shows a terminal window with the nano text editor open. The title bar indicates the user is 'arthur' on an EC2 instance, connected via SSH. The editor is editing a file named 'freq-slurm.sh'. The script content is as follows:

```
#!/bin/bash

# Submit this script with: sbatch <this-filename>

#SBATCH --time=24:00:00 # walltime
#SBATCH --ntasks=1 # number of processor cores (i.e. tasks)
#SBATCH --nodes=1 # number of nodes
#SBATCH --cpus-per-task=1 # number of processors per task
#SBATCH -J "freq" # job name

## /SBATCH -p general # partition (queue)
#SBATCH -o rpllp-slurm.%N.%j.out # STDOUT
#SBATCH -e rpllp-slurm.%N.%j.err # STDERR

# LOAD MODULES, INSERT CODE, AND RUN YOUR PROGRAMS HERE
python -u -c "import PyHipp as pyh; \
import time; \
pyh.RPLLP(saveLevel=1); \
pyh.FreqSpectrum(saveLevel=1); \
pyh.FreqSpectrum(loadHighPass=True, pointsPerWindow=3000, saveLevel=1); \
print(time.localtime());"
```

At the bottom of the terminal, a status bar displays various keyboard shortcuts for the nano editor, such as 'G Get Help', 'O Write Out', 'W Where Is', 'K Cut Text', 'J Justify', 'C Cur Pos', 'U Undo', 'A Mark Text', 'X Exit', 'R Read File', 'N Replace', 'U Uncut Text', 'T To Linter', 'G Go To Line', 'E Redo', 'A Mark Text', 'J To Bracket', 'C Copy Text', and 'W WhereIs Next'. A small notification 'Read 21 lines' is also visible.

2. Screenshot of the fsall-slurm.sh script from Step 9



The screenshot shows a terminal window with the title bar "arthur — ec2-user@ip-10-0-3-222:/data/src/PyHipp — ssh -i ./MyKeyPair.pem ec2-user@18.141.57.231 — 151x52". The terminal is running the GNU nano 2.9.8 editor, editing the file "fsall-slurm.sh". The script content is as follows:

```
#!/bin/bash

# Submit this script with: sbatch <this-filename>

#SBATCH --time=24:00:00 # walltime
#SBATCH --ntasks=1 # number of processor cores (i.e. tasks)
#SBATCH --nodes=1 # number of nodes
#SBATCH --cpus-per-task=1 # number of processors per task
#SBATCH -J "fsall" # job name

## /SBATCH -p general # partition (queue)
#SBATCH -o fsall-slurm.%N.%j.out # STDOUT
#SBATCH -e fsall-slurm.%N.%j.err # STDERR

# LOAD MODULES, INSERT CODE, AND RUN YOUR PROGRAMS HERE
python -u -c "
import DataProcessingTools as DPT; \
import PyHipp as pyh; \
lfall = DPT.objects.processDirs(dirs=None, exclude=['*eye*', '*mountains*'], objtype=pyh.FreqSpectrum, saveLevel=1); \
lfall.save(); \
hfall = DPT.objects.processDirs(dirs=None, exclude=['*eye*', '*mountains*'], objtype=pyh.FreqSpectrum, loadHighPass=True, pointsPerWindow=3000, saveLe$
hfall.save();
"
aws sns publish --topic-arn arn:aws:sns:ap-southeast-1:565485473173:awsnotify --message "FSJobDone"
```

At the bottom of the terminal, there is a status bar with the text "[Read 25 lines]" and a list of keyboard shortcuts:

^G Get Help	^O Write Out	^W Where Is	^K Cut Text	^J Justify	^C Cur Pos	^U Undo	^A Mark Text	^I To Bracket
^X Exit	^R Read File	^L Replace	^U Uncut Text	^T To Linter	^_ Go To Line	^E Redo	^D Copy Text	^N WhereIs Next

3. Screenshot of the consol_fsjobs.sh script from Step 11



The screenshot shows a terminal window with the nano text editor open. The title bar indicates the user is 'arthur' on an EC2 instance, connected via SSH. The editor is editing the file 'consol_fsjobs.sh'. The script content is as follows:

```
#!/bin/sh

temp1=$(squeue)

cmd1="sbatch --dependency=afterok:"

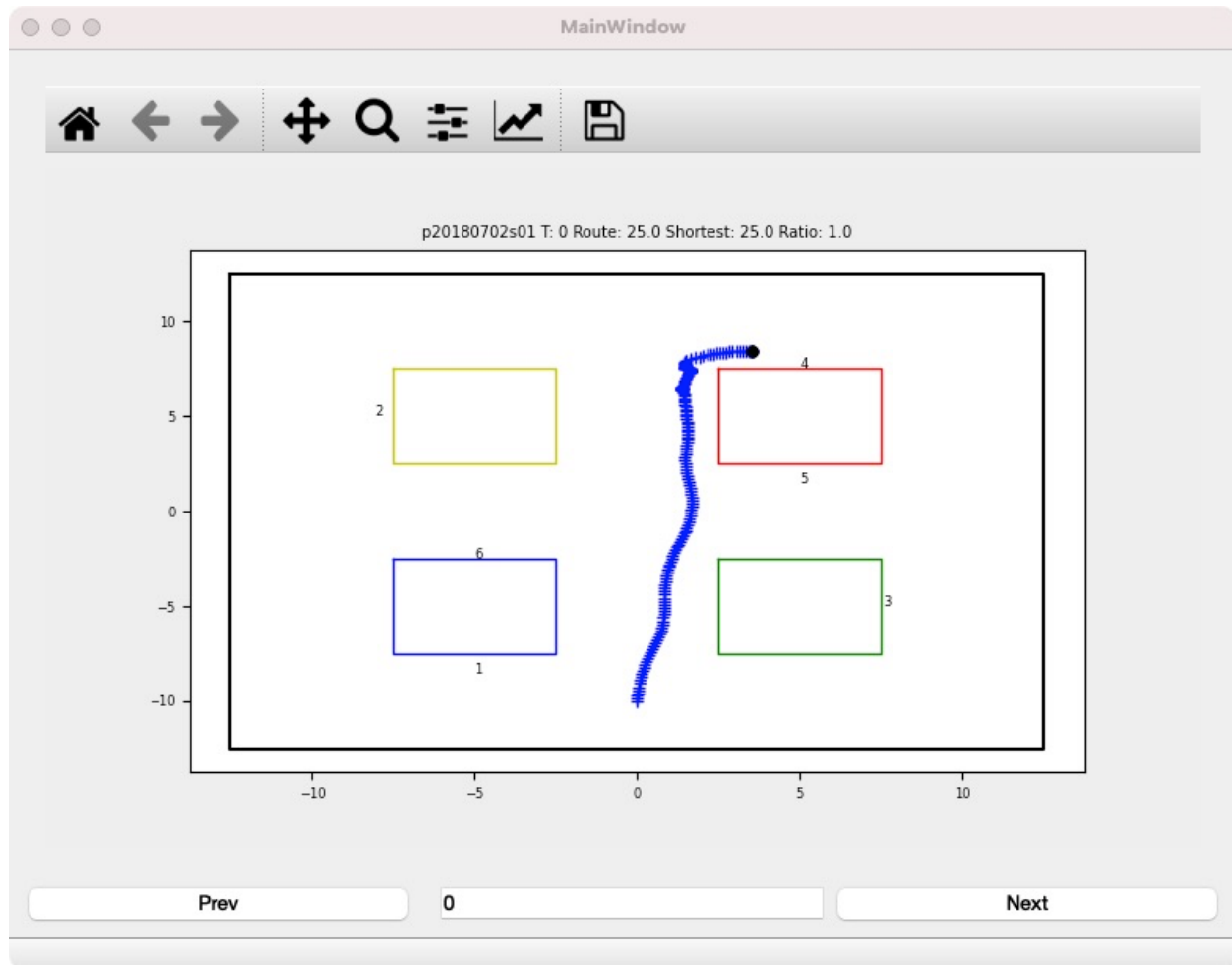
counter1=0
for i in "${temp1[@]"; do
    if [[ "$i" == "queue1" ]]; then
        id1=${temp1[$counter1-1]}
        cmd1="${cmd1}${id1}:"
    fi
    counter1=$((counter1+1))
done

cmd1=${cmd1::-1}
cmd1="${cmd1} /data/src/PyHipp/fsall-slurm.sh"

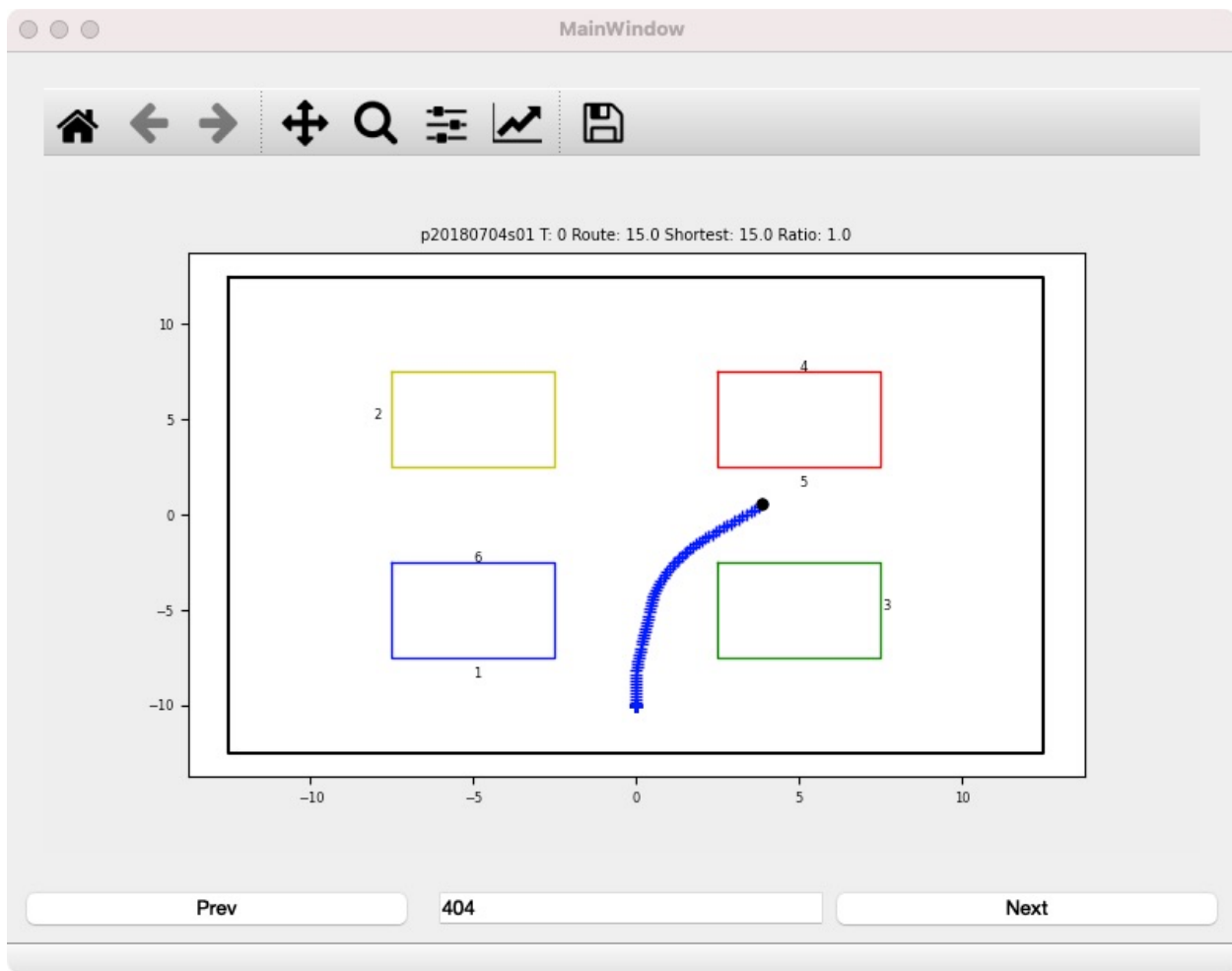
echo $cmd1
eval $cmd1
```

At the bottom of the terminal, a status bar displays various keyboard shortcuts for the nano editor, including 'Get Help', 'Write Out', 'Where Is', 'Cut Text', 'Justify', 'Cur Pos', 'Undo', 'Mark Text', 'To Bracket', 'Exit', 'Read File', 'Replace', 'Uncut Text', 'To Linter', 'Go To Line', 'Redo', 'Copy Text', and 'WhereIs Next'. A small indicator '[Read 20 lines]' is also visible.

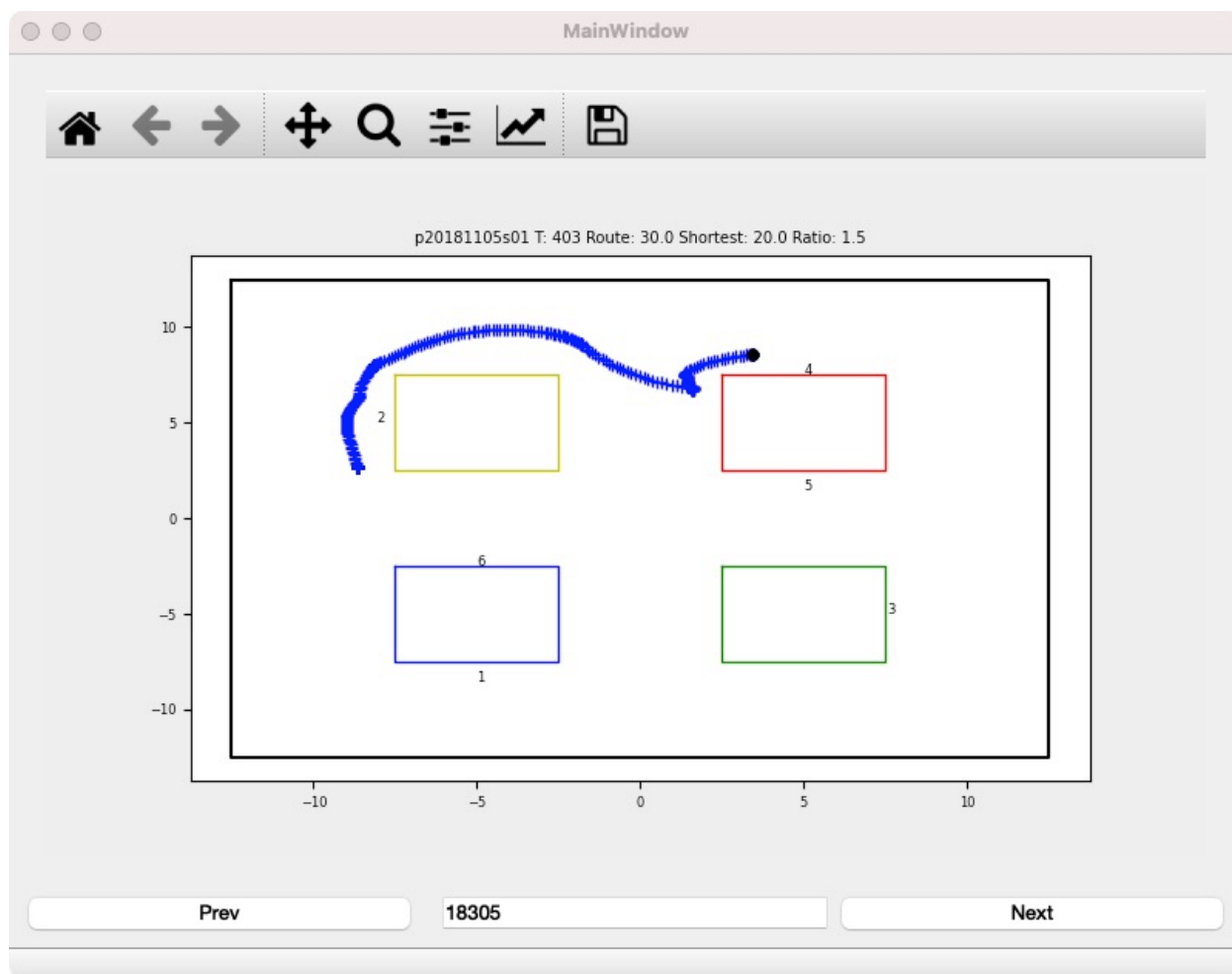
4. Screenshots of the plots from 3 trials in Step 17
- 5.



Trial 0

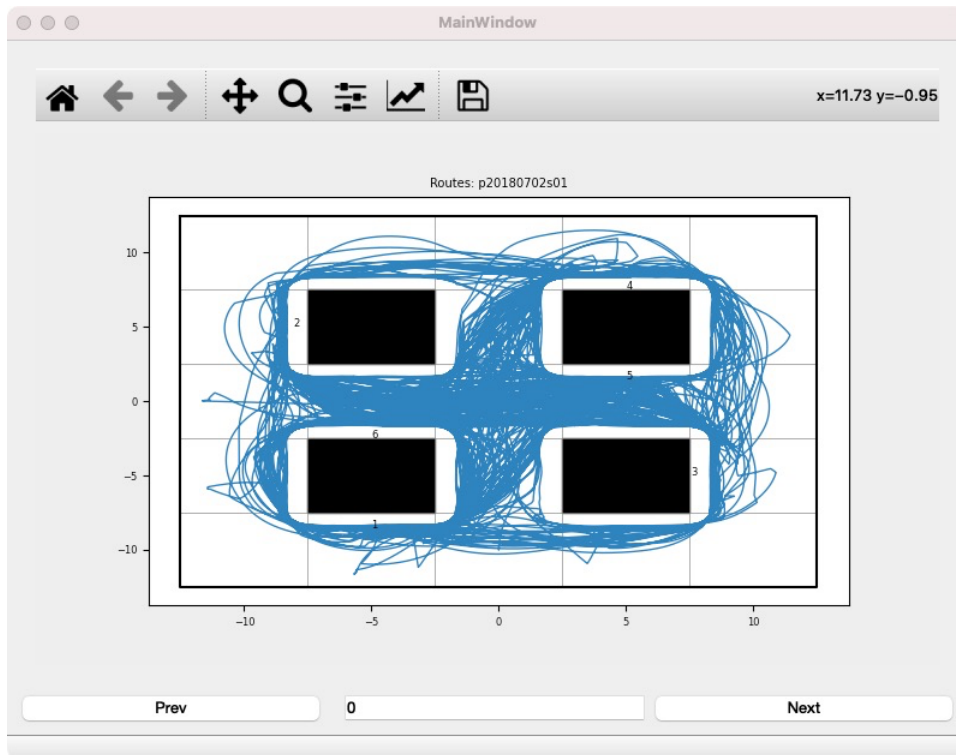


Trial 404

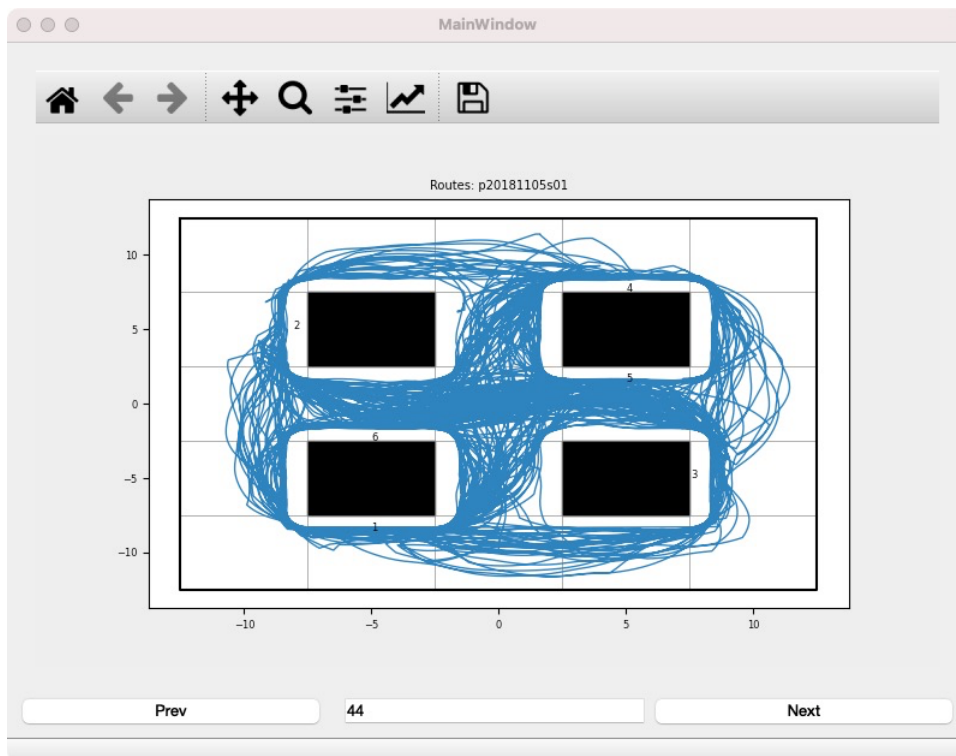


Trial 18305

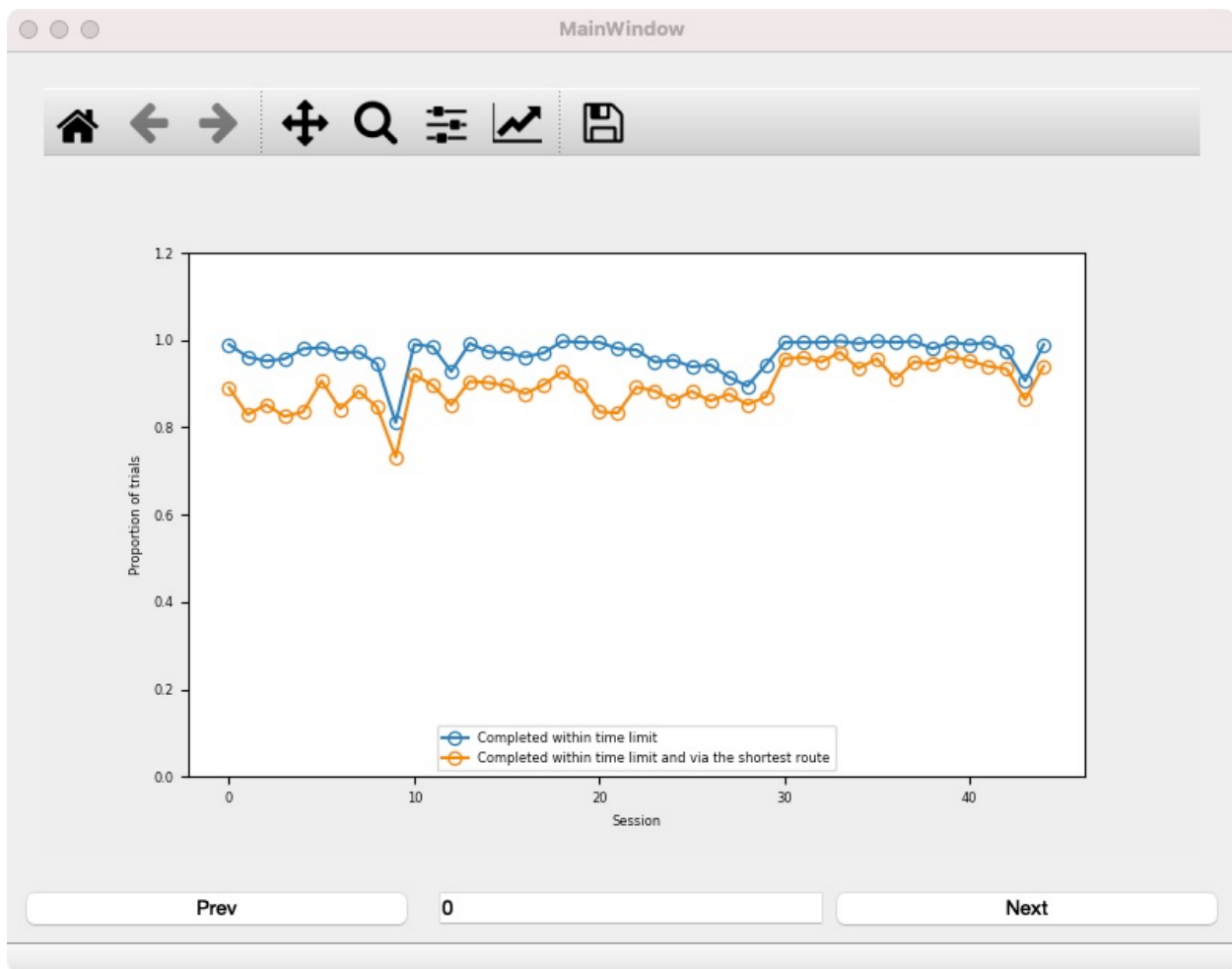
6. Screenshots of the 2 sessions in Step 18, and all sessions in Step 19



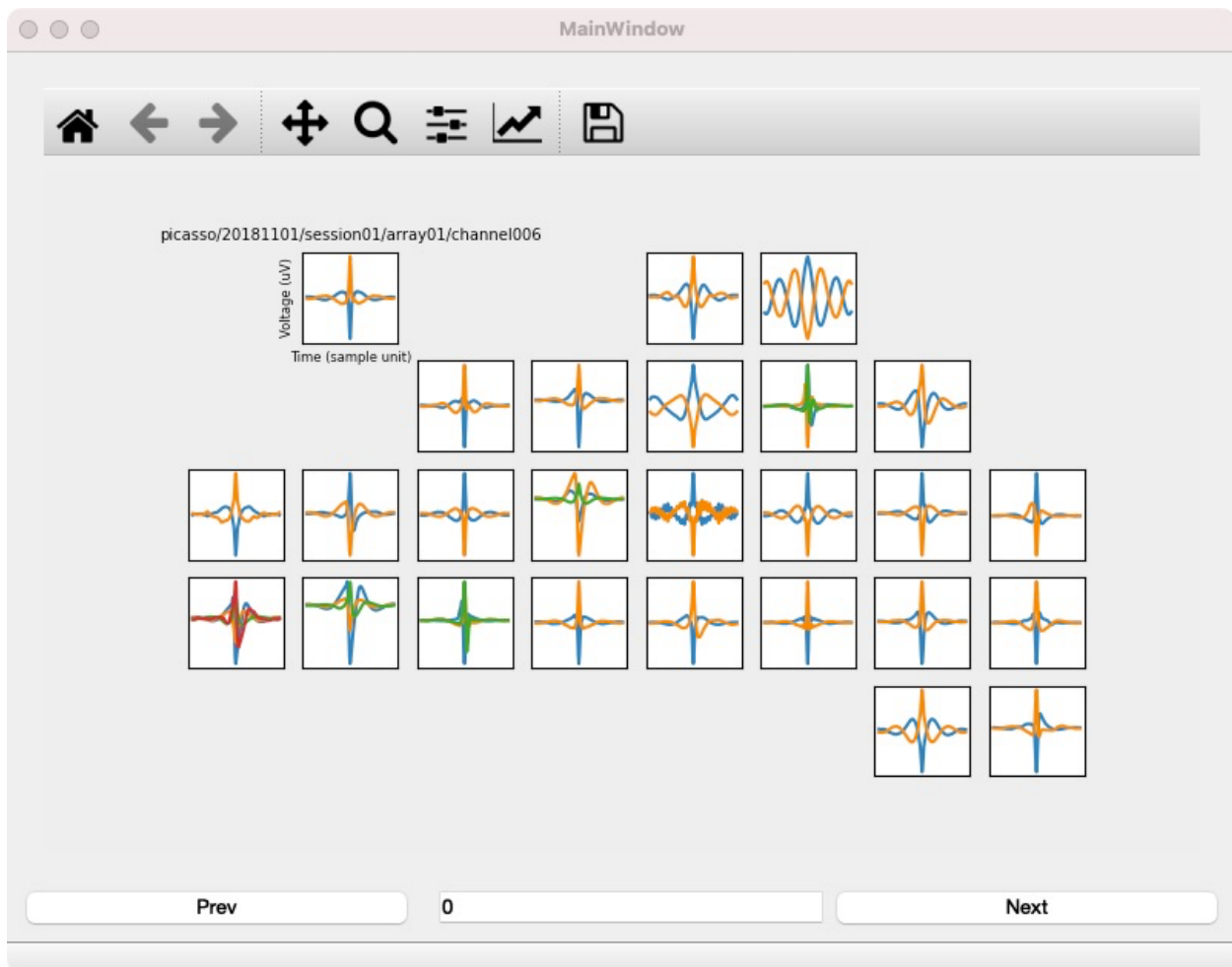
0



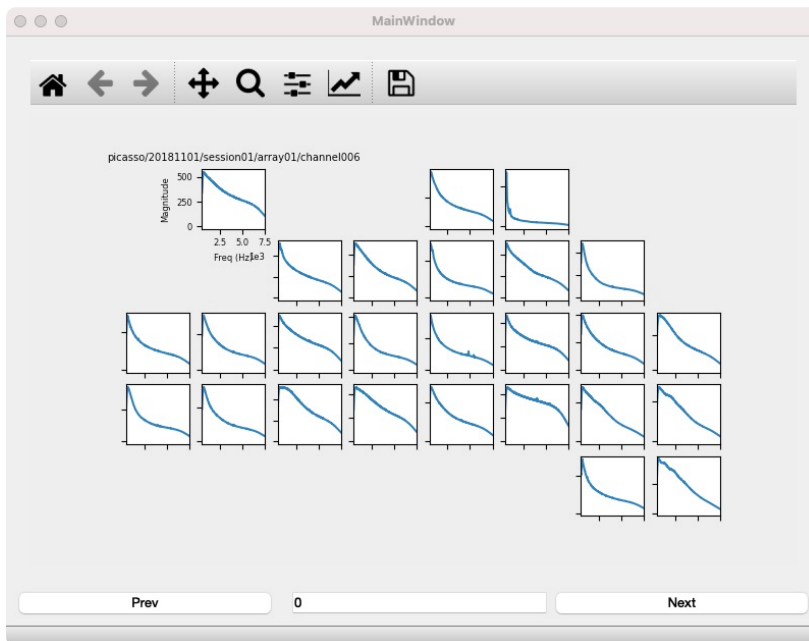
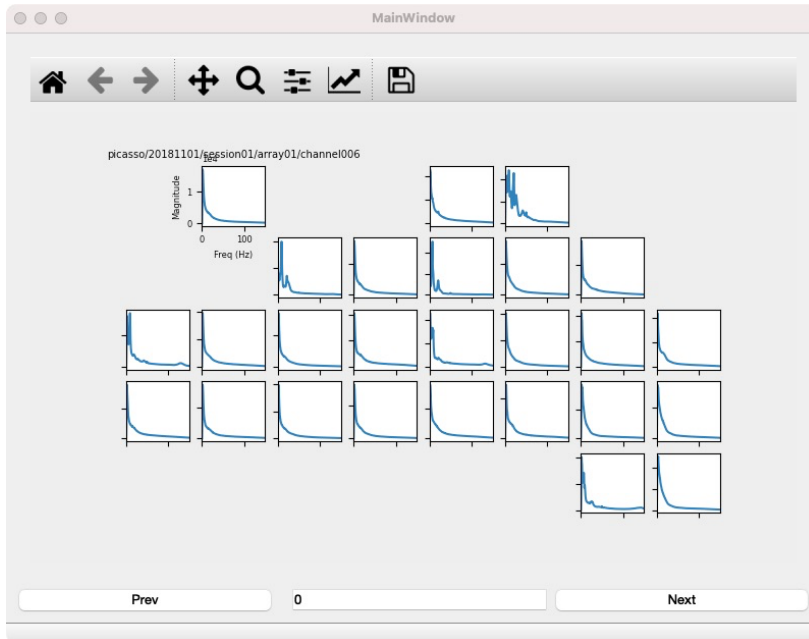
44



7. Screenshots of one of the array plots for the waveform object from Step 21



8. Screenshots of one of the array plots for the low-frequency spectrum objects from Step 22 and one of the array plots for the high-frequency spectrum objects from Step 23



9. Screenshot of your EC2 Dashboard (follow instructions from Lab 4)

The screenshot displays the AWS Management Console's EC2 Dashboard for the Asia Pacific (Singapore) Region. The left-hand navigation pane includes links to the EC2 Dashboard, EC2 Global View, Events, Tags, Limits, and various instance types like On-Demand, Reserved, and Dedicated Hosts. The main content area is divided into several sections: 'Resources' showing a summary of EC2 resources (1 running instance, 2 total instances, 1 volume, etc.), a 'Launch instance' section with a 'Launch Instance' button and a 'Migrate a server' link, a 'Service health' section indicating that the EC2 service is operating normally, and a 'Scheduled events' section showing no events for the region. A notification banner at the top of the main content area promotes the AWS Launch Wizard for SQL Server.

Resources

You are using the following Amazon EC2 resources in the Asia Pacific (Singapore) Region:

Instances (running)	1	Dedicated Hosts	0	Elastic IPs	0
Instances	2	Key pairs	1	Load balancers	0
Placement groups	0	Security groups	4	Snapshots	3
Volumes	1				

Launch instance

To get started, launch an Amazon EC2 instance, which is a virtual server in the cloud.

[Launch Instance](#) [Migrate a server](#)

Note: Your instances will launch in the Asia Pacific (Singapore) Region

Scheduled events

Asia Pacific (Singapore)

No scheduled events

Service health

Region: Asia Pacific (Singapore) Status: ✔ This service is operating normally

Zones

Zone name	Zone ID
ap-southeast-1a	apse1-az1
ap-southeast-1b	apse1-az2

10. Screenshot of Elastic Compute Cloud charges (follow instructions from Lab 4)

The screenshot shows the AWS Billing Management Console for the Asia Pacific (Singapore) region. The left sidebar contains navigation links for Cost Management, Cost Explorer, Budgets, Budgets Reports, Savings Plans, Preferences, Billing preferences, Payment methods, Consolidated billing, and Tax settings. The main content area displays 'AWS Service Charges' with a table of charges for the month of November 2021. The charges are categorized by service, including CloudWatch, Data Transfer, DynamoDB, Elastic Compute Cloud, Key Management Service, Lambda, Route 53, Simple Notification Service, and Simple Storage Service. The Elastic Compute Cloud section is expanded, showing charges for Linux/UNIX instances and EBS storage. The total charges for the month are \$145.21.

AWS Service Charges		\$0.00
CloudWatch		\$0.00
Data Transfer		\$0.00
DynamoDB		\$0.00
Elastic Compute Cloud		\$0.00
No Region		-\$145.21
Asia Pacific (Singapore)		\$145.21
Amazon Elastic Compute Cloud running Linux/UNIX		\$95.69
\$0.00 per Linux t2.micro instance-hour (or partial hour) under monthly free tier	193.000 Hrs	\$0.00
\$0.146 per On Demand Linux m5n.large Instance Hour	140.152 Hrs	\$20.46
\$0.272 per On Demand Linux r5a.xlarge Instance Hour	20.397 Hrs	\$5.55
\$0.544 per On Demand Linux r5a.2xlarge Instance Hour	128.091 Hrs	\$69.68
EBS		\$49.52
\$0.00 for 1166 Mbps per r5a.2xlarge instance-hour (or partial hour)	128.091 Hrs	\$0.00
\$0.00 for 800 Mbps per r5a.xlarge instance-hour (or partial hour)	20.397 Hrs	\$0.00
\$0.00 per GB-month of General Purpose (SSD) provisioned storage under monthly free tier	30.000 GB-Mo	\$0.00
\$0.00 per GB-Month of snapshot data stored under monthly free tier	1.000 GB-Mo	\$0.00
\$0.05 per GB-Month of snapshot data stored - Asia Pacific (Singapore)	436.602 GB-Mo	\$21.83
\$0.12 per GB-month of General Purpose SSD (gp2) provisioned storage - Asia Pacific (Singapore)	230.721 GB-Mo	\$27.69
Key Management Service		\$0.00
Lambda		\$0.00
Route 53		\$0.00
Simple Notification Service		\$0.00
Simple Storage Service		\$0.00

Usage and recurring charges for this statement period will be charged on your next billing date. Estimated charges shown on this page, or shown on any notifications that we send to you, may differ from your actual charges for this statement period. This is because estimated charges presented on this page do not include usage charges accrued during this statement period after the date you view this page. Similarly, information about estimated charges sent to you in a notification do not include usage charges accrued during this statement period after the date we send you the notification. One-time fees and subscription charges are assessed separately from usage and recurring charges, on the date that they occur.

© 2009 - 2021, Amazon Web Services, Inc. or its affiliates. All rights reserved. Privacy Policy Terms of Use Cookie preferences

11. Screenshot of Budgets Overview (follow instructions from Lab 5)

The screenshot shows the AWS Billing Management Console interface. The top navigation bar includes the AWS logo, a search bar, and user information (HE_TY, Global, Support). The left sidebar lists various billing and cost management options, with 'Budgets' highlighted. The main content area is titled 'Overview' and displays a table of budgets. A single budget, 'EE3801', is listed with a status of 'OK'. The table columns include Name, Thresholds, Budget, Amount used, Forecasted amount, Current vs. budgeted, and Forecasted vs. budgeted. The 'Current vs. budgeted' column shows a progress bar at 57.06%.

Budgets (1) [info](#) [Download CSV](#) [Actions](#) [Create budget](#)

[Show all budgets](#) [<](#) [1](#) [>](#) [⚙️](#)

<input type="checkbox"/>	Name	Thresholds	Budget	Amount used	Forecasted amount	Current vs. budgeted	Forecasted vs. budgeted
<input type="checkbox"/>	EE3801	OK	\$400.00	\$228.23	-	<div><div></div></div> 57.06%	-

© 2008 - 2021, Amazon Web Services, Inc. or its affiliates. All rights reserved. [Privacy Policy](#) [Terms of Use](#) [Cookie preferences](#)