Worcester Polytechnic Institute
Department of Computer Science

Module 2: Acquisition with Android Debugging Tool adb

Objectives

- Create a virtual Android phone in Santoku Linux.
- Perform the acquisition of the Android device using the adb backup.

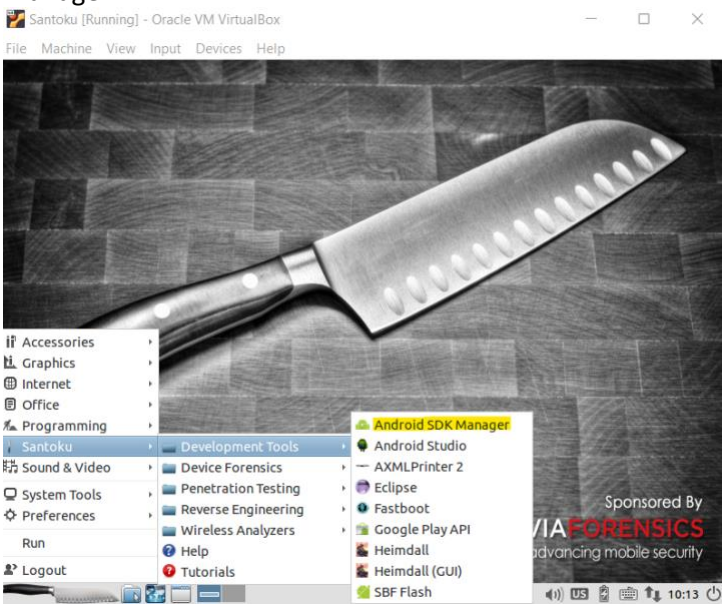
Task

Task 1. Software Preparation

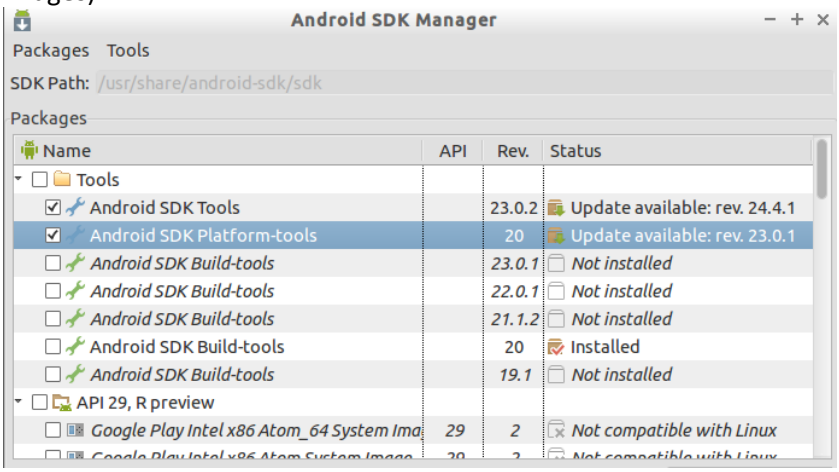
1. Download the Santoku from Canvas.
Both username and password are **santoku**.

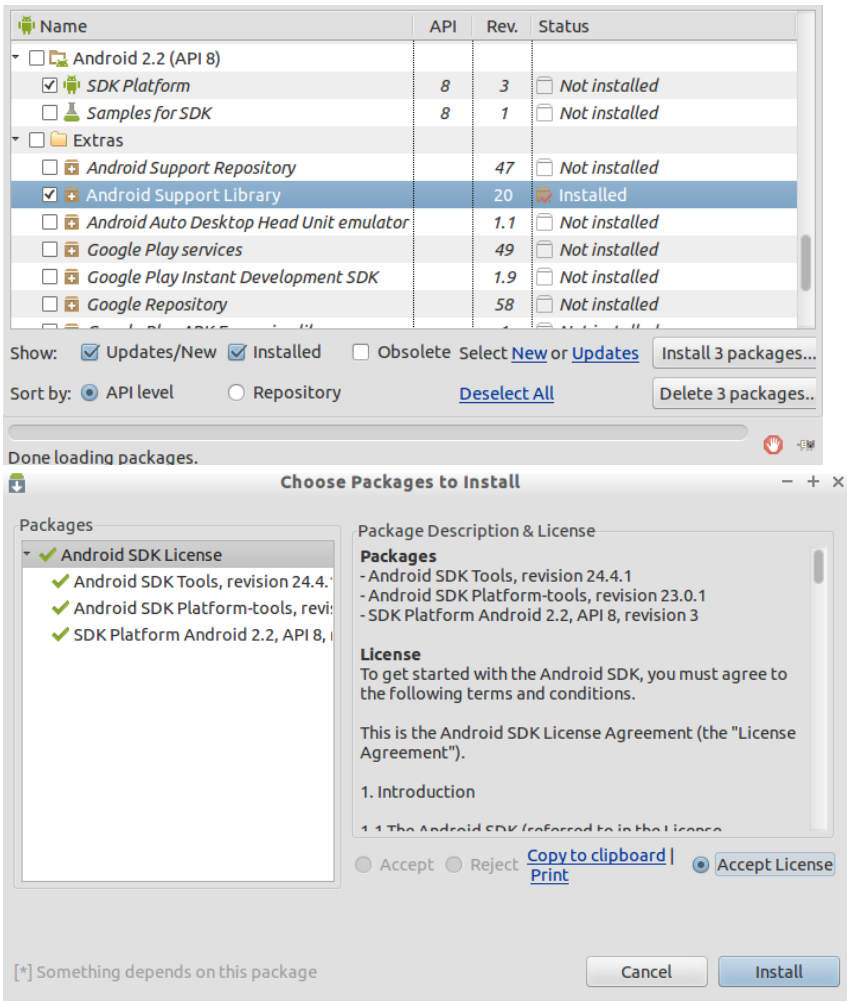
Task 2. Create a virtual Android device.

2. Click the 'knife' icon on the left corner, choose 'Santoku' -> 'Development Tools' -> 'Android SDK Manager'.

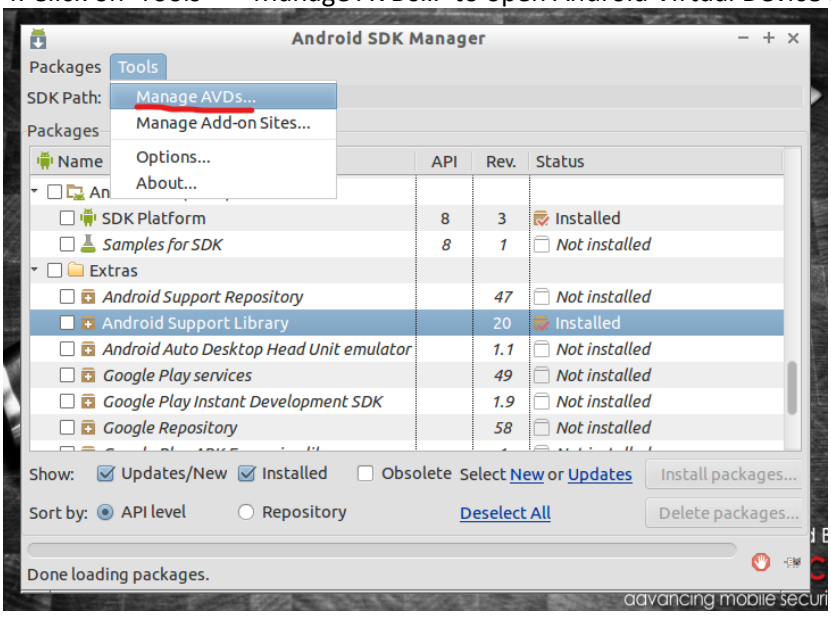


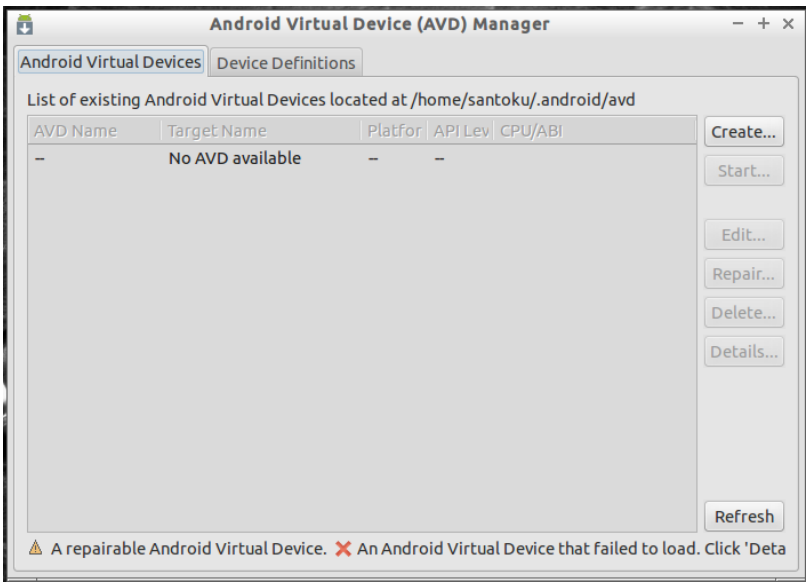
3. After opening the Android SDK Manager, install these four packages. (The virtual machine is installed with these packages, if yours do not have these packages, please install them as marked in the following images).



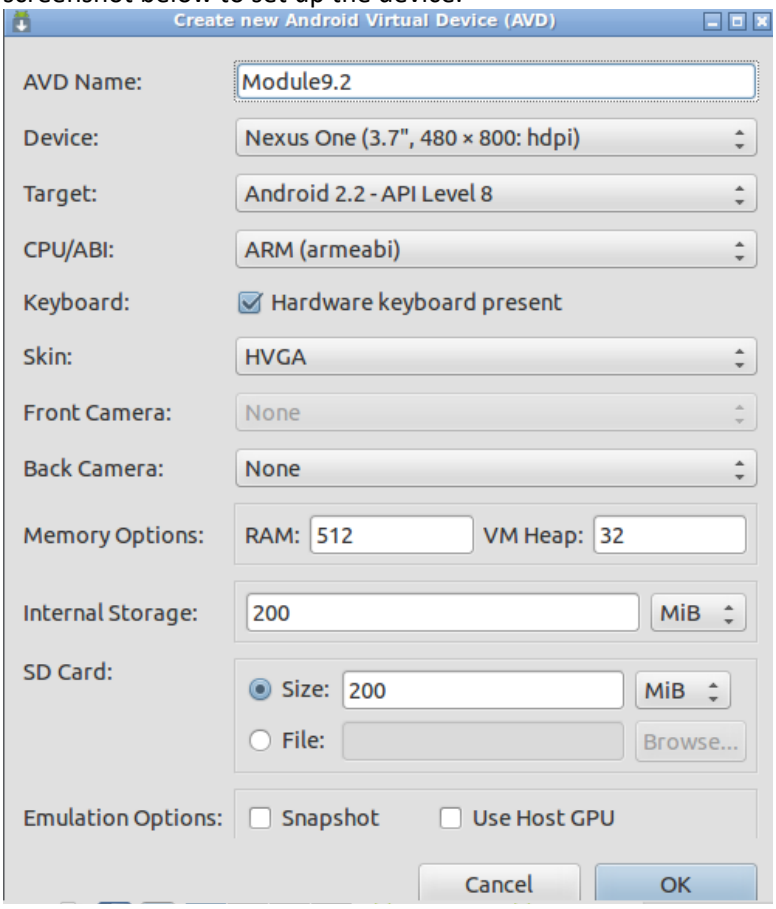


4. Click on ‘Tools’ -> ‘Manage AVDs…’ to open Android Virtual Device (AVD) Manager.



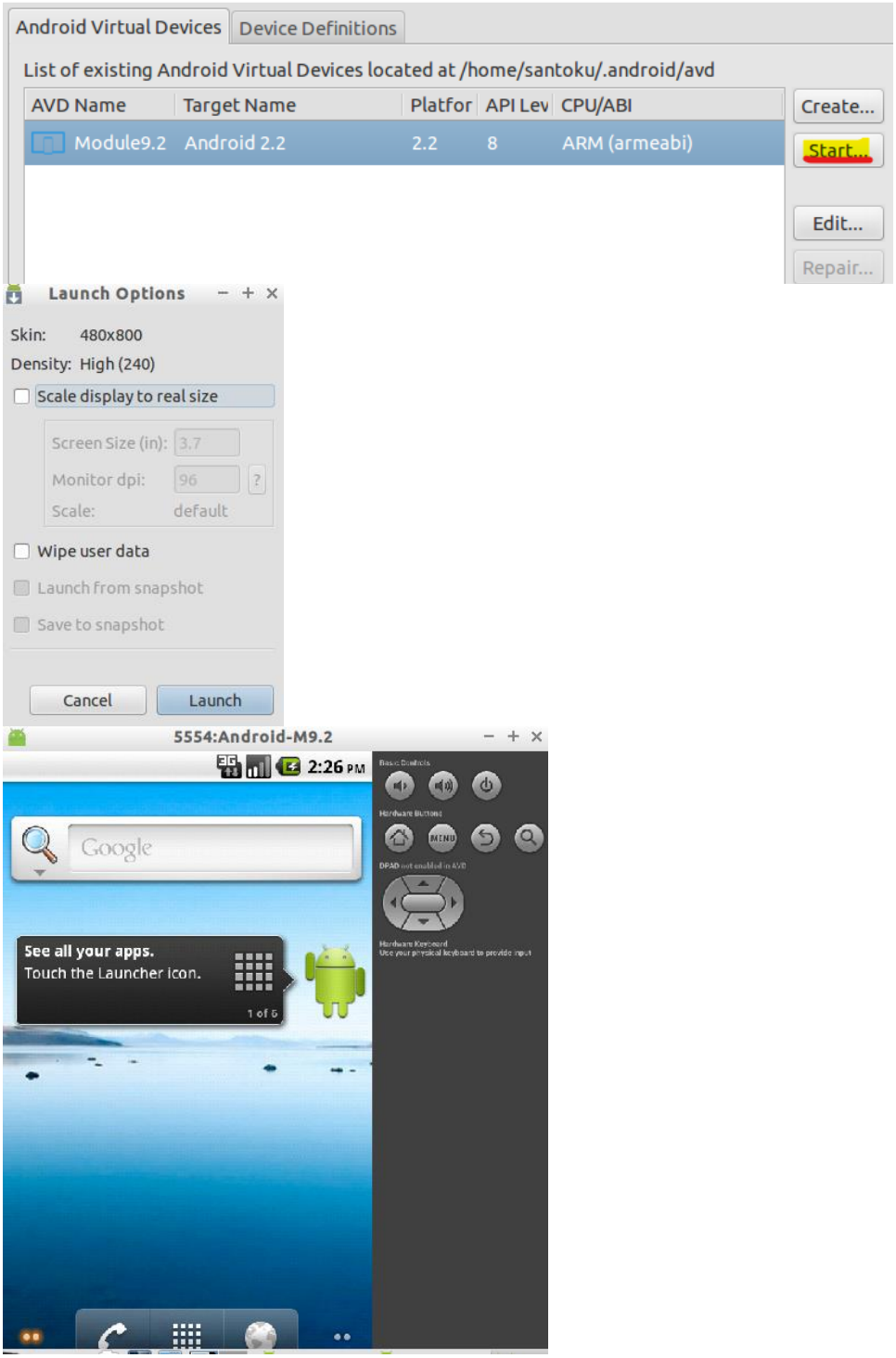


5. Then click on ‘Create’ on the right column to create a new Android Virtual Device. Follow the screenshot below to set up the device.



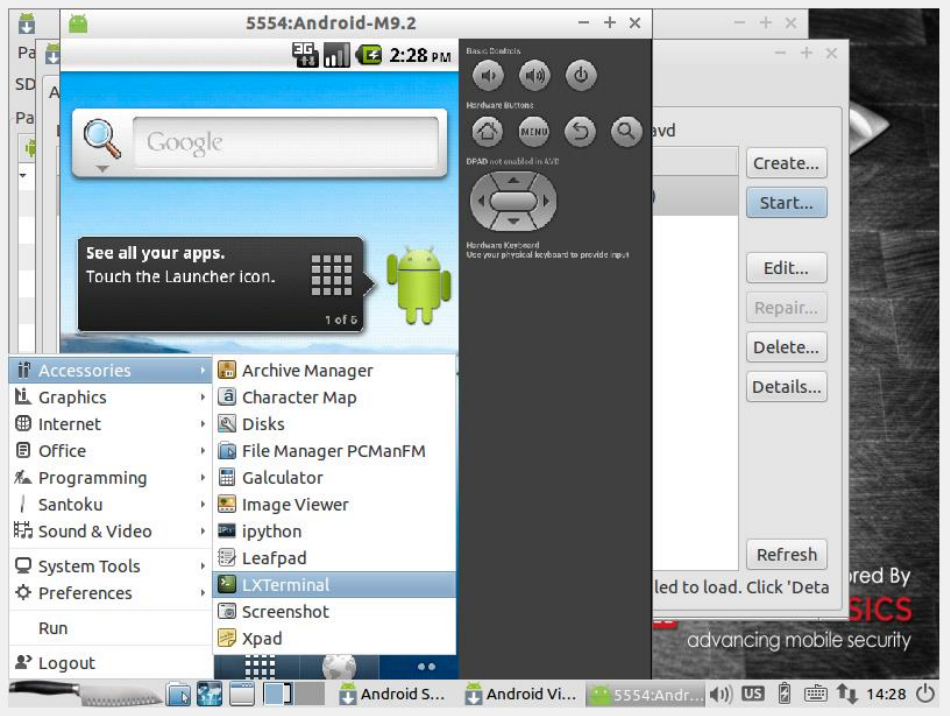
After setting up everything, click on ‘OK’.

6. Click on the device and start the device. Set up the lunch option and then launch the device.

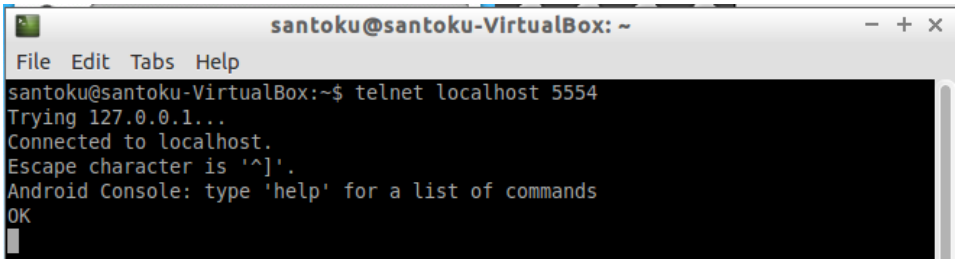


7. After opening the phone, open the terminal to connect the phone.

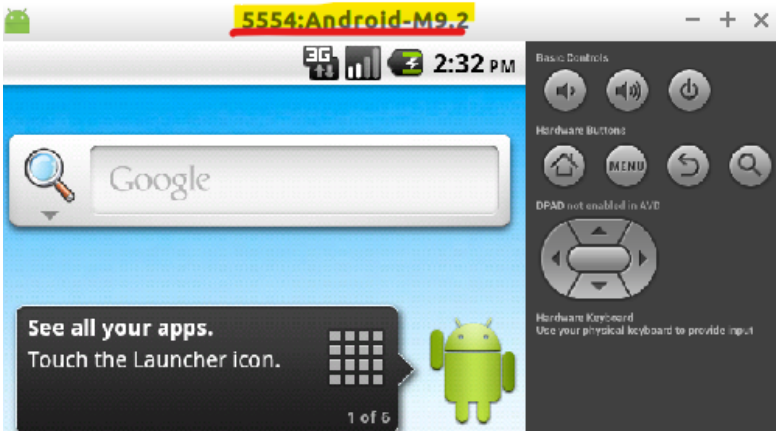
Clicking the ‘knife icon’ on the left conner -> Accessories -> LXTerminal



After opening the terminal, type command **telnet localhost 5554** (5554 is the port opened by the emulator)

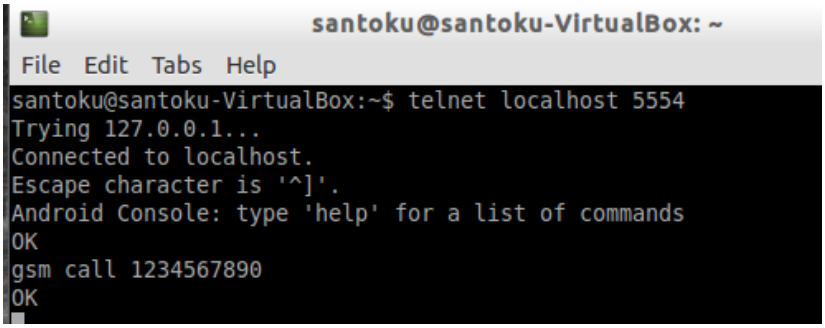


The port number is on the top of the window.

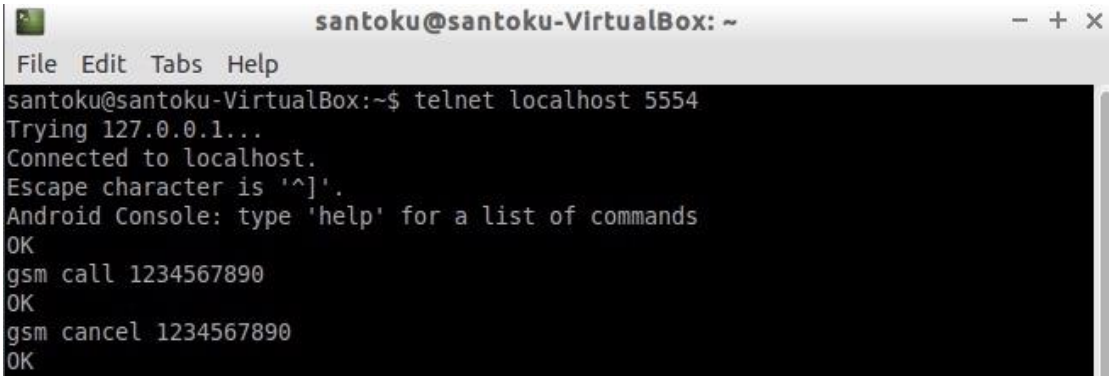


8. After connecting the emulator, make a phone call, send a message, create a contact, etc.

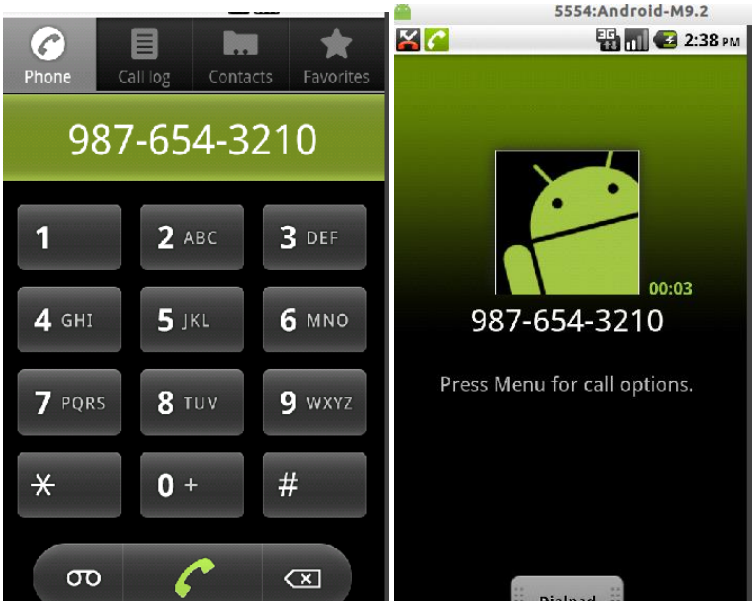
Make a phone call using command ***gsm call phoneNumber*** (you can use any fake phone number, 1234567890 is an example).

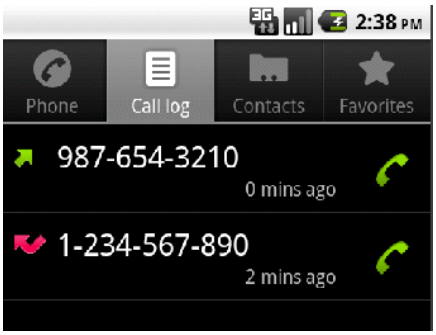


You can also make a phone call and then cancel the phone call using the command ***gsm cancel phoneNumber***

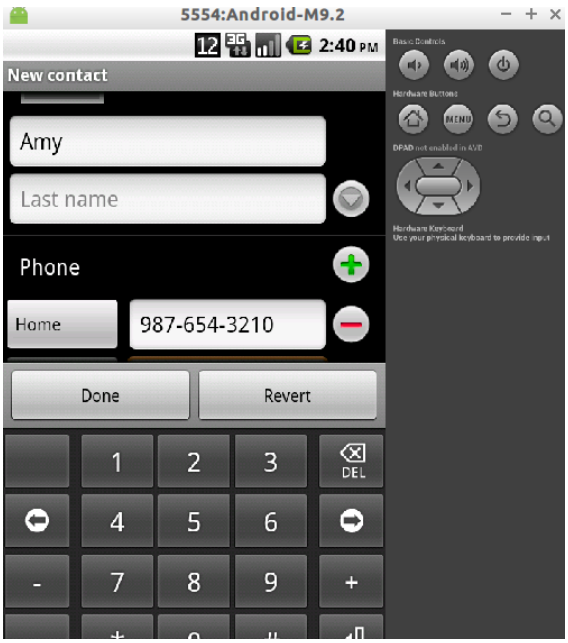


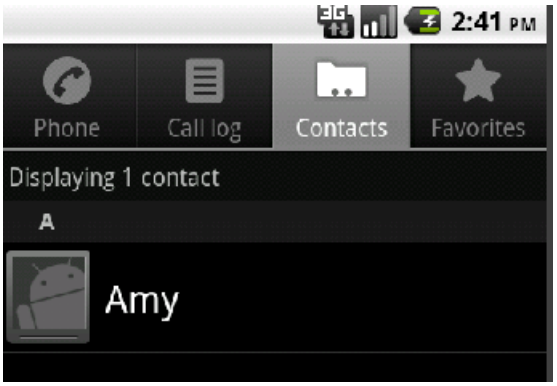
Besides, you can also make a phone call using the emulator. Enter the number and call that number.



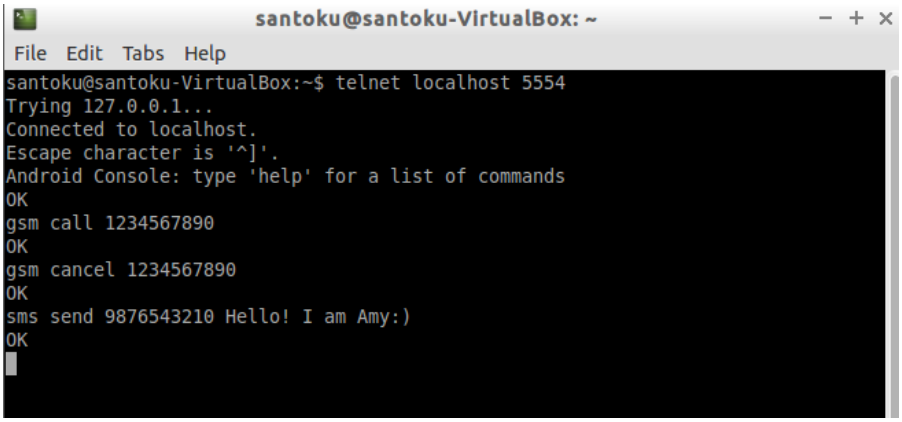


Create a new contact using the emulator.



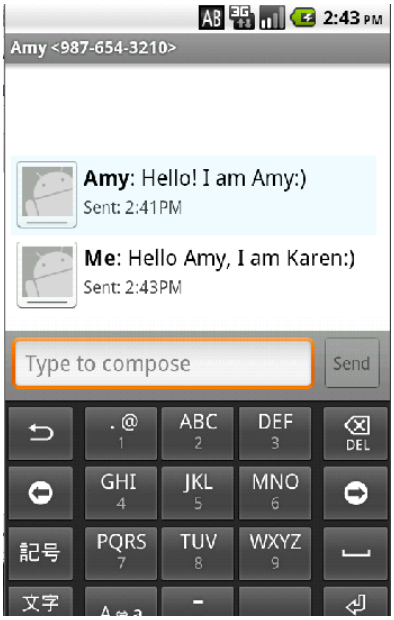


Send a message using the command ***sms send phoneNumber message***



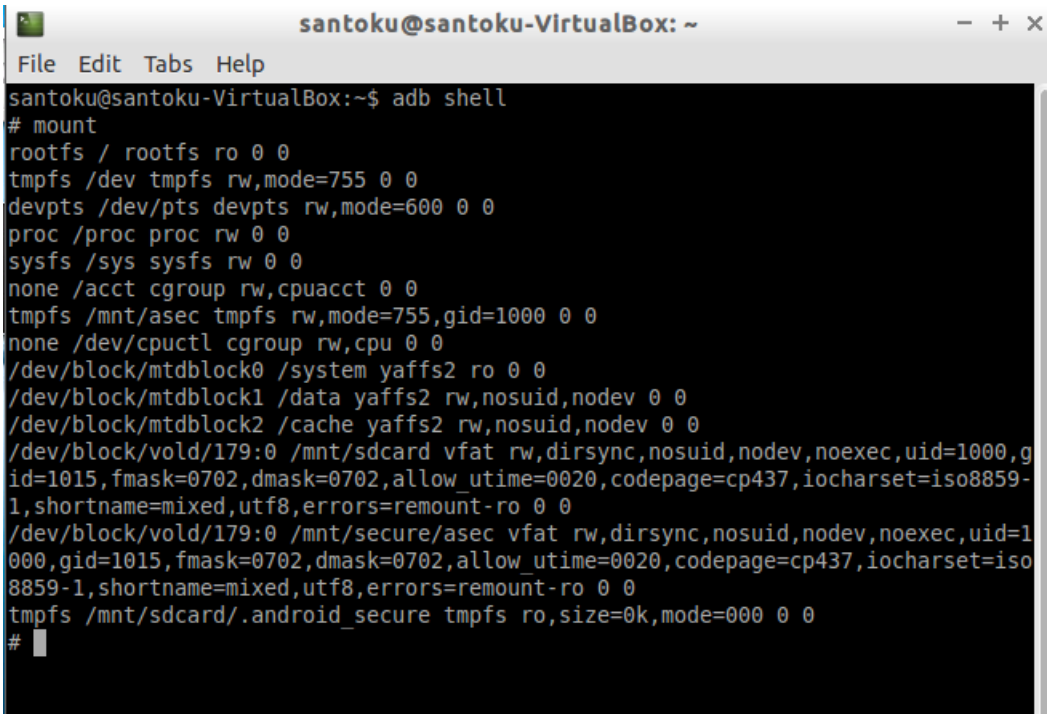
Note: Since this phone number has been saved before, the sender's name appears automatically.

You can also reply to this message.

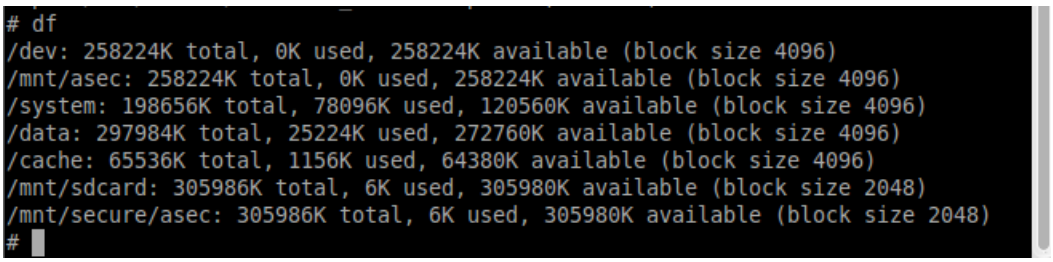


9. Open another terminal and open the adb shell by typing the command ***adb shell*** to get basic information about the emulator system.

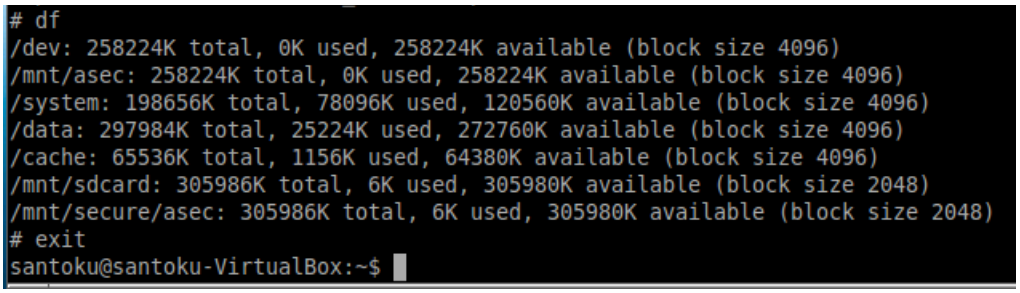
And then type ***mount*** to attach the filesystem found on the device to one file tree.

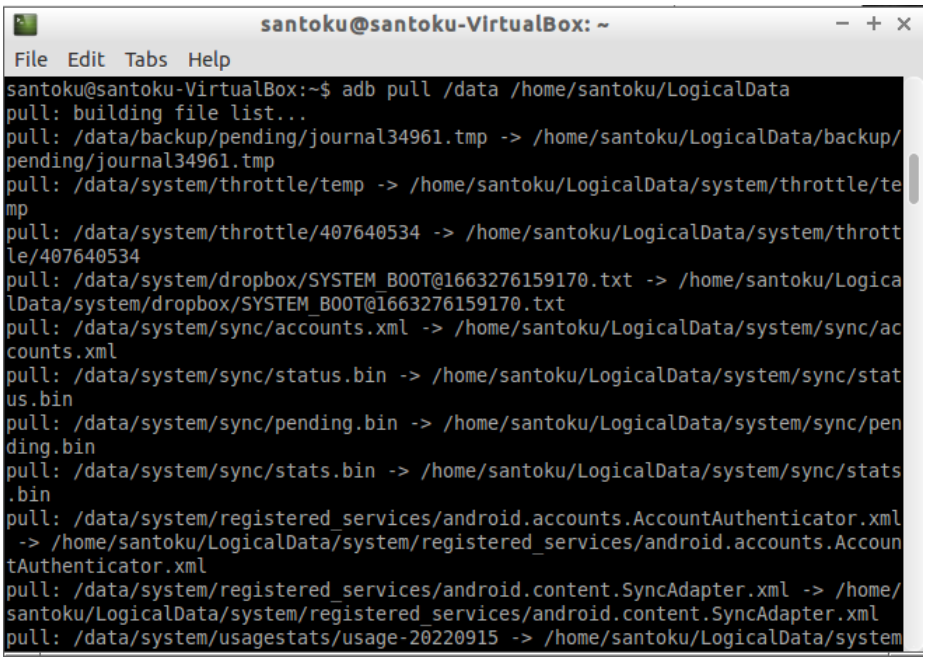


And then type ***df*** to display the amount of disk space available on this partition.



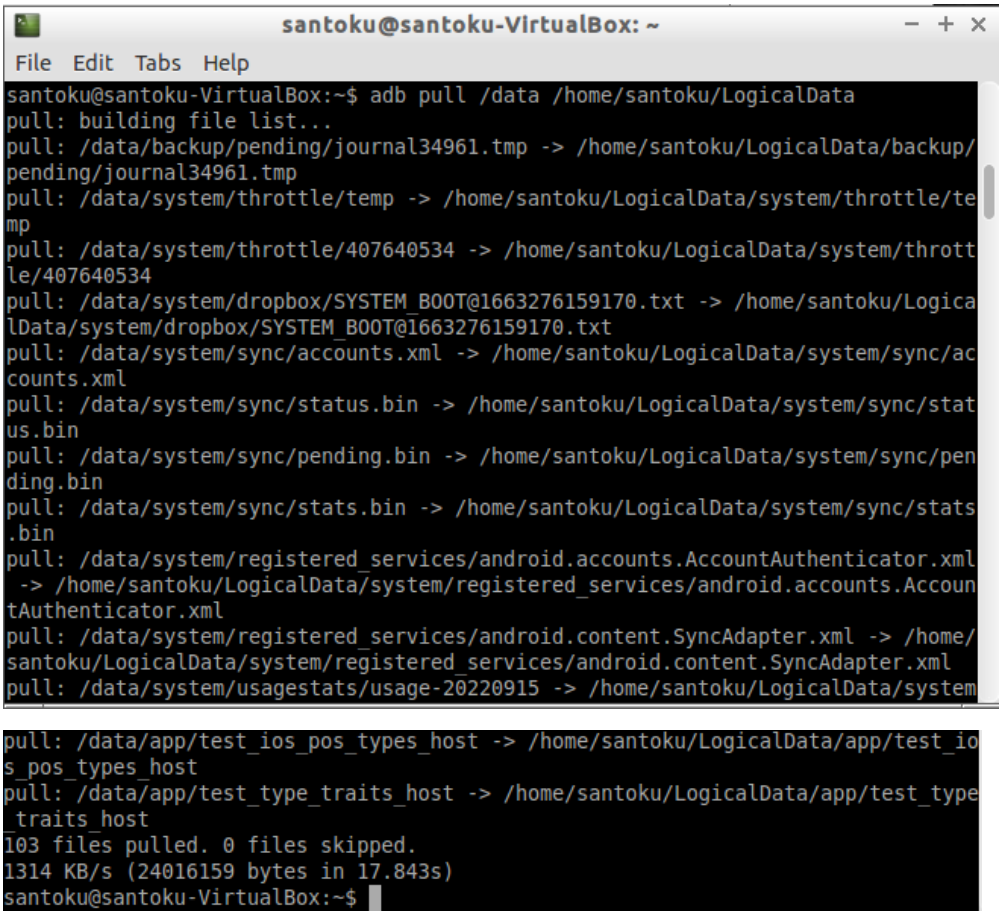
Type ***exit*** to exit adb shell.





10. Pull the data from the emulator.

Type command ***adb pull /data /home/santoku/LogicalData*** to pull the data from /data.

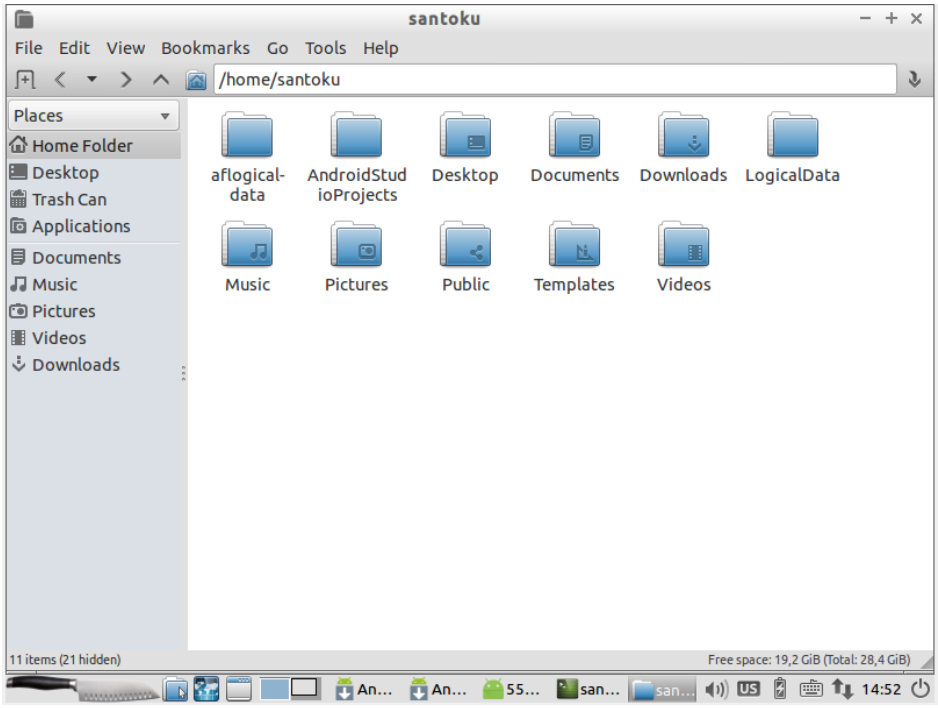


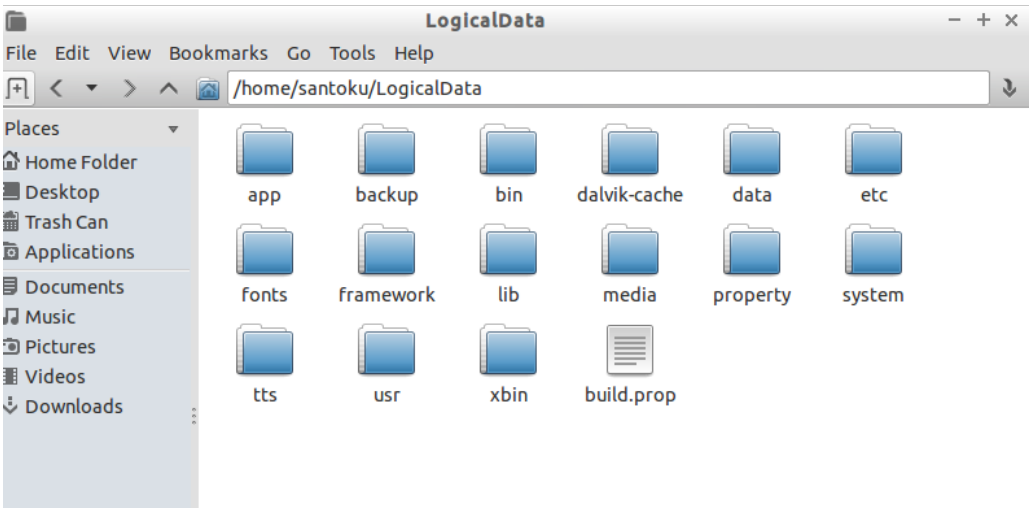
Type command ***adb pull /system /home/santoku/LogicalData*** to pull the data in /system.

```
santoku@santoku-VirtualBox:~$ adb pull /system /home/santoku/LogicalData
pull: building file list...
pull: /system/usr/srec/config/en.us/models/generic.swiarb -> /home/santoku/Logic
alData/usr/srec/config/en.us/models/generic.swiarb
pull: /system/usr/srec/config/en.us/models/generic8_m.swimdl -> /home/santoku/Lo
gicalData/usr/srec/config/en.us/models/generic8_m.swimdl
pull: /system/usr/srec/config/en.us/models/generic11.lda -> /home/santoku/Logica
lData/usr/srec/config/en.us/models/generic11.lda
pull: /system/usr/srec/config/en.us/models/generic11_f.swimdl -> /home/santoku/L
ogicalData/usr/srec/config/en.us/models/generic11_f.swimdl
pull: /system/usr/srec/config/en.us/models/generic8.lda -> /home/santoku/Logical
Data/usr/srec/config/en.us/models/generic8.lda
pull: /system/usr/srec/config/en.us/models/generic11_m.swimdl -> /home/santoku/L
ogicalData/usr/srec/config/en.us/models/generic11_m.swimdl
pull: /system/usr/srec/config/en.us/models/generic8_f.swimdl -> /home/santoku/Lo
gicalData/usr/srec/config/en.us/models/generic8_f.swimdl
pull: /system/usr/srec/config/en.us/grammars/phone_type_choice.g2g -> /home/sant
oku/LogicalData/usr/srec/config/en.us/grammars/phone_type_choice.g2g
pull: /system/usr/srec/config/en.us/grammars/VoiceDialer.g2g -> /home/santoku/Lo
gicalData/usr/srec/config/en.us/grammars/VoiceDialer.g2g
pull: /system/usr/srec/config/en.us/grammars/boolean.g2g -> /home/santoku/Logica
lData/usr/srec/config/en.us/grammars/boolean.g2g
pull: /system/usr/srec/config/en.us/g2p/en-US-ttp.data -> /home/santoku/LogicalD
```

```
pull: /system/bin/kill -> /home/santoku/LogicalData/bin/kill
pull: /system/bin/pppd -> /home/santoku/LogicalData/bin/pppd
pull: /system/bin/ifconfig -> /home/santoku/LogicalData/bin/ifconfig
pull: /system/bin/showlease -> /home/santoku/LogicalData/bin/showlease
pull: /system/bin/gdbserver -> /home/santoku/LogicalData/bin/gdbserver
pull: /system/bin/run-as -> /home/santoku/LogicalData/bin/run-as
pull: /system/build.prop -> /home/santoku/LogicalData/build.prop
373 files pulled. 0 files skipped.
1846 KB/s (81451530 bytes in 43.088s)
santoku@santoku-VirtualBox:~$
```

Then, open the folder and open the folder LogicalData to check all the data.





Deliverable:
You need to submit a lab report to Canvas. (You can submit a report with all the screenshots and questions for activity 8 in one file or you can submit several files for each module). Note: Your lab report should contain two parts.

1) Screenshots (3-4 screenshots in total for this module): Please take screenshots after you enter the "telnet localhost 5554" command on the terminal. Please take a screenshot after you finish step 9 and show the content within the LogicalData folder.

2) Please answer the following questions:

1. What is your port number opened by the emulator in step 10? Please use a screenshot to prove your answer.

2. What are the commands that this module used to make a phone call and cancel the phone call?

3. What command did you use to send a message?

4. What are the commands you used to pull the data from the emulator?

5. Why in this module did we make a phone call, send a message and create a new contact?