Practical 1

ADB Commands : Basic to Advanced.

* Basic ADB Commands.

. Check ADB Version :
adb version

. List Connected Devices:
adb devices

. Start ADB Server :
adb start-server

. Stop ADB Server:
adb kill-server

. Connect to a Device via IP :
adb tcpip 5555
adb connect <device-ip> : 5555

. Reboot Device :
adb reboot

. Reboot into Bootloader :
adb reboot bootloader

. Check Device Log:
adb logcat

* File Management Commands:

- Pull a File from Device:
  ```
  adb pull /sdcard /file.txt <local-path>
  ```

- Push a File to Device:
  ```
  adb push <local-file-path> /sdcard/
  ```

- List Files in a Directory:
  ```
  adb shell ls/sdcard/
  ```

- Delete a File:
  ```
  adb shell rm /sdcard/ file.txt
  ```

* Advanced ADB Commands.

- Access Device Shell:
  ```
  adb shell
  ```

- Install an APK:
  ```
  adb install <apk-path>
  ```

- Uninstall an App:
  ```
  adb uninstall <package-name>
  ```

- List Installed Packages:
  ```
  adb shell pm list packages.
  ```

- Grant Specific Permissions :
```
# adb shell pm grant <package-name> <permission>
```

- Take a Screenshot :
```
adb shell screencap /sdcard/screenshot.png
adb pull /sdcard/screenshot.png <local-path>
```

- Record Screen:
```
adb shell screenrecord /sdcard/video.mp4
adb pull /sdcard/video.mp4 <local-path>
```

- Monitor Network Activity :
```
adb shell dumpsys netstats
```

* Forensic and Security Testing Commands.

- Extract Android Logs for Forensics:
```
adb logcat -d > logcat.txt
```

- Dump System Information :
```
adb shell dumpsys
```

- Check Running Processes:
```
adb shell ps
```

- Capture Network Traffic :
```
adb shell tcpdump -i any -s 0 -w /sdcard/capture.pcap
adb pull /sdcard/capture.pcap <local-path>
```

- Unlock the Device via ADB:
```
adb shell input keyevent 82
```

- Simulate Touch Events:
```
adb shell input tap <x><y>
```

- Simulate Swipe Events:
```
adb shell input swipe <x1><y1><x2><y2>
```

- Dump Device's SQLite Database:
```
adb shell "run-as <package-name> cat databases/
            <db-name>"> <local-file>
```

* **Advanced Debugging and Penetration Testing**

- Forward Ports for Debugging:
```
adb forward tcp:<local-port> tcp:<device-port>
```

- Reverse Port Forwarding:
```
adb reverse tcp:<local-port> tcp:<device-port>
```

- Launch an Activity:
```
adb shell am start -n <package-name>/<activity-name>
```

- Backup Data:
```
adb backup -apk-shared -all -f backup.ab
```

- Restore Backup:
```
adb restore backup.ab
```