Damir Nabiullin - Lab 1

Answers:

1. Machine hostname: `dale-nitro` . To check it i used `hostname` command.

2. I have installed `Ubuntu 20.04` . I checked it with `lsb_release -a` command.

3. The root directory is `/` directory.

4. `sh` is subset of `bash` . Scripts that start with `/bin/sh` or use the `sh` shell usually do so for backwards compatibility. Any unix/linux OS will have a `sh` shell. `bash` is newer than the original `sh` , adds more features, and seeks to be backwards compatible with `sh` .

5. `-i` option represents *interactive*. `-r` option makes shell becomes *restricted*. `-l` option makes bash act as if it had been *invoked as login* shell.

6. `Ubuntu` - is one of the most popular Linux distribution enjoyed across the globe by beginners, intermediate users, and professionals alike. Ubuntu was specifically designed for beginners in Linux or those transitioning from mac and Windows.
   `Mint` - is a hugely popular community-driven Linux distribution based on Ubuntu. It has transcended time to provide one of the most elegant, and user-friendly distributions loved by desktop users and professionals alike.
   `Debian` - is renowned for being a mother to popular Linux distributions such as `Deepin` , `Ubuntu` , and `Mint` which have provided solid performance, stability, and unparalleled user experience.
   `Red Hat Enterprise Linux` - is a Linux distribution designed for Enterprise or commercial purposes.
   `Gentoo` - is a distribution built for professional use and experts who take into consideration what packages they are working with from the word go.

7. `The Portable Operating System Interface` (`POSIX`) is a family of standards specified by the IEEE Computer Society for maintaining compatibility between operating systems.
   `POSIX` defines:
   a) *Base definitions* - a list of basic definitions and conventions used in the specifications, and a list of C header files that must be provided by a conforming system.

b) *Shell and utilities* - description of sh utilities and command shell, regular expression standards.

c) *System interfaces* - a list of C system calls.

d) *Rationale* - an explanation of the principles used in the standard.

8. 1) **High portability** (Applications designed based on the `POSIX` interface can be transplanted between different RTOSs that support `POSIX` without modification or with only a small amount of modification. So, application can be compiled and executed on multiple systems without any modification) -> High development efficiency and low development cost

    2) **Easy to test** (In the case of the same interface, the target program can be compiled and run on the host machine without any modification.

    3) **Good documentation** (`The POSIX API` documents are very rich, and you can find a lot of them)

9. 1) Slackware appears to be a highly stripped-down version of the unix operating system designed for sophisticated users to perform action in low level interactions with the OS.

    2) For a larger audience with varied levels of technical competence, Debian appears to be more of a user-friendly offering.

    3) In general, Debian is easier to use, configure, and administer.

10. **Kernel name**: Linux

    HostnameI: dale-nitro

    Kernel release*: 5.15.0-46-generic

    Kernel version and build time: #49~20.04.1-Ubuntu SMP Thu Aug 4 19:15:44 UTC 2022

    Processor type, hardware platform and architecture of processor: x86_64 x86_64 x86_64

    OS name: GNU/Linux