**Managing Software (18 Marks)**

**Log in as linuxuser.**

**Part I: Install, get info, and remove a package using apt**

1. Using **apt**:
   1. install the package ‘joe’ (this is a text editor)
   2. Install the package ‘moon-buggy’
   3. Install the package ‘ninvaders’
2. Using **dpkg**:
   1. list all the files in the package ‘joe’
   2. put line numbers in front of each line
   3. redirect the output to ~/joefiles.txt
3. Using **apt**:
   1. show the details of the package ‘joe’
   2. redirect the output to ~/joestatus.txt (1 mark)
4. Using **apt** and **grep**:
   1. show the details of the package ‘joe’
   2. output any line with the string Maintainer in it **OR** begins with APT
   3. redirect the output to ~/joemaintainer.txt (1 mark)
5. Using **apt**:
   1. remove the package ‘joe’ without deleting configuration files (1 mark)
6. Using **dpkg**:
   1. list the package ‘joe’ and show that configuration files are still in place
   2. redirect the output to ~/joeremoved.txt (1 mark)

\*\* If you run the joe text editor from the command line to test it, use CTRL-K, Q to quit \*\*

Copy the alpine .deb package to your home directory:

|  |
| --- |
| **cp /scripts/alpine-pico\_2.20+dfsg1-2\_amd64.deb ~/** |

**Part II: Install, get info, and purge a package using dpkg**

1. Using dpkg:
   1. install alpine-pico\_2.20+dfsg1-2\_amd64.deb
   2. redirect the output to ~/alpineinstall.txt (1 mark)
2. Using dpkg:
   1. list all the files in the package ‘alpine-pico’
   2. redirect the output to ~/alpinefiles.txt (1 mark)
3. Using dpkg:
   1. show all the details of the package ‘alpine-pico’
   2. redirect the output to ~/alpinestatus.txt (1 mark)
4. Using dpkg and grep:
   1. show the details of the package ‘alpine-pico’
   2. output any line with the string alpine in it **OR** editor
   3. redirect the output to ~/alpineditor.txt (1 mark)
5. Using dpkg:
   1. delete the package ‘alpine-pico’ leaving no configuration behind
   2. touch the file ~/alpineremoved.txt (1 mark)

**Part III: Compile a Program (2 Marks)**

If you didn’t install development tools in class:

|  |
| --- |
| **sudo apt install build-essential** |

Compiling software from source (C source code) requires 3 steps. Configuration, compiling and then installing.

First we need some source code to compile.

1. rm -rf ~/hello-2.8 (remove the old directory)
2. cp /scripts/hello-2.8.tar.gz ~/
3. Extract the tar file using the correct tar command
4. cd into the hello-2.8 directory

Use the ls command to look at the files in the hello-2.8/src subdirectory. These are the C source code files:

|  |
| --- |
| **-rw-r--r-- 1 linuxuser linuxuser 11K Jan 7 2012 ChangeLog -rw-r--r-- 1 linuxuser linuxuser 6.1K Apr 18 2012 hello.c -rw-r--r-- 1 linuxuser linuxuser 986 Apr 18 2012 Makefile.am -rw-r--r-- 1 linuxuser linuxuser 32K Apr 19 2012 Makefile.in -rw-r--r-- 1 linuxuser linuxuser 1.3K Jan 7 2012 system.h** |

Use ls command to look at the files in the hello-2.8 directory. You should see the configure file:

|  |
| --- |
| **-rwxr-xr-- 1 linuxuser linuxuser 393K Apr 19 2012 configure** |

It is executable and used to configure the source code to run on your version of linux. Run the configure command:

|  |
| --- |
| **./configure** |

There will be a lot of output as the configure script runs.

After the configure script is done. It is time to compile the source code and create an executable file:

|  |
| --- |
| **make** |

Again, there will be a lot of output as everything compiles. Once everything is compiled you will have an executable file in the src directory (use the ls command to verify):

|  |
| --- |
| **-rw-r--r-- 1 linuxuser linuxuser 10985 Jan 7 2012 ChangeLog**  **-rwxrwxr-x 1 linuxuser linuxuser 99781 Feb 4 18:09 hello**  **-rw-r--r-- 1 linuxuser linuxuser 6164 Apr 18 2012 hello.c**  **-rw-rw-r-- 1 linuxuser linuxuser 14920 Feb 4 18:09 hello.o**  **-rw-rw-r-- 1 linuxuser linuxuser 26018 Feb 4 18:08 Makefile**  **-rw-r--r-- 1 linuxuser linuxuser 986 Apr 18 2012 Makefile.am**  **-rw-r--r-- 1 linuxuser linuxuser 32447 Apr 19 2012 Makefile.in**  **-rw-r--r-- 1 linuxuser linuxuser 1284 Jan 7 2012 system.h** |

Now we have to install the software (it will move it to a new location so users can execute it)

|  |
| --- |
| **sudo make install** |

Run the newly installed software:

|  |
| --- |
| **hello** |

**Hello, world!**

**Part IV: Miscellany**

1. Using find and wc:
   1. Locate every filename (not directories) in /scripts/work containing the string ‘age’
   2. Redirect the output to ~/findage.txt
   3. Use wc to append the number of lines (and only the number of lines) to findage.txt (1 Mark)
2. Using find and -exec grep:
   1. Locate every filename that contains the string ‘age’ in /scripts/work
   2. Grep the contents of each file for the string ‘good’ (case insensitive)
   3. Include the name of the file the match occurred in (grep option)
   4. Redirect the output to ~/good.txt (1 Mark)
3. Using find:
   1. Locate only files (not directories) beginning with “H” (case sensitive) in /scripts/work
   2. Add line numbers to the beginning of each line
   3. Redirect the output to ~/Hfiles.txt (1 Mark)
4. Using grep:
   1. Find all occurrences of the string ‘usr/share’ in the alpine\*.txt and joe\*.txt files only.
   2. Add line numbers to the beginning of each line
   3. Redirect the output to ~/aljoegrep.txt (1 Mark)
5. Using tar:
   1. Create alpinejoe.tar.bz2 containing all of the files in ~/ that begin with ‘joe’ or begin with ‘alpine’ (1 Mark)

**Super Tough (2 Marks)**

1. Using find and tar:
   1. Find all files in /scripts/work that begin with “x” (case insensitive)
   2. Create **allx.tar.gz** file containing all of the files found
   3. \*HINT\* it is an option for -exec that you are looking for
   4. \*HINT HINT\* it would be nice to group all our output for tar

**Submitting your work**

|  |
| --- |
| **sudo /scripts/assignment03.sh** |

**Question 1.1: Package joe installed - good.**

**Question 1.1: Package moon-buggy installed - good.**

**Question 1.1: Package ninvaders installed - good.**

**Question 1.2: /home/linuxuser/joefiles.txt - exists**

**133 /usr/share/man/man1/jmacs.1.gz**

**134 /usr/share/man/man1/jpico.1.gz**

**135 /usr/share/man/man1/jstar.1.gz**

**Question 1.3: /home/linuxuser/joestatus.txt - exists**

**Package: joe**

**Version: 4.1-2**

**Priority: optional**

**Question 1.4: /home/linuxuser/joemaintainer.txt - exists**

**Maintainer: Ubuntu Developers <ubuntu-devel-discuss@lists.ubuntu.com>**

**Original-Maintainer: Josip Rodin <joy-packages@debian.org>**

**APT-Manual-Installed: yes**

**APT-Sources: http://us-east1.gce.archive.ubuntu.com/ubuntu xenial/universe amd64 Packages**

**Question 1.5: /home/linuxuser/joeremoved.txt - exists**

**Desired=Unknown/Install/Remove/Purge/Hold**

**| Status=Not/Inst/Conf-files/Unpacked/halF-conf/Half-inst/trig-aWait/Trig-pend**

**|/ Err?=(none)/Reinst-required (Status,Err: uppercase=bad)**

**||/ Name Version Architecture Description**

**+++-==============-============-============-=====================================**

**rc joe 4.1-2 amd64 user friendly full screen text editor**

**Question 2.1: /home/linuxuser/alpineinstall.txt - exists**

**Setting up alpine-pico (2.20+dfsg1-2) ...**

**update-alternatives: using /usr/bin/pico.alpine to provide /usr/bin/pico (pico) in auto mode**

**Processing triggers for man-db (2.7.5-1) ...**

**Question 2.2: /home/linuxuser/alpinefiles.txt - exists**

**/usr/share/man/man1/pico.alpine.1.gz**

**/usr/bin**

**/usr/bin/pico.alpine**

**Question 2.3: /home/linuxuser/alpinestatus.txt - exists**

**new debian package, version 2.0.**

**size 298066 bytes: control archive=1001 bytes.**

**828 bytes, 20 lines control**

**Question 2.4: /home/linuxuser/alpineditor.txt - exists**

**Package: alpine-pico**

**Source: alpine**

**Section: editors**

**Homepage: http://patches.freeiz.com/alpine/**

**Description: Simple text editor from Alpine, a text-based email client**

**"pico" is a simple but powerful text editor. It was originally the pine**

**composer, the editor used by the pine email client for writing email messages.**

**as a stand-alone editor by many users.**

**It is similar to but less powerful than GNU Nano, an editor created with the**

**Question 2.5: /home/linuxuser/alpineremoved.txt - exists**

**Question 3.1: /usr/local/bin/hello - exists**

**Question 4.1: /home/linuxuser/findage.txt - exists**

**/scripts/work/congenialities/functionize/savagenesses**

**/scripts/work/neuropsychic/henny/quietives/harborage's**

**12 findage.txt**

**Question 4.2: /home/linuxuser/good.txt - exists**

**/scripts/work/upheaver/hepatology/discourages:allgood**

**/scripts/work/ancientism/Khartoum's/trendsetter/tallageable:goodwilly**

**Question 4.3: /home/linuxuser/Hfiles.txt - exists**

**27 /scripts/work/fistmeles/malitia/Herron**

**28 /scripts/work/congenialities/Heaven's**

**29 /scripts/work/Ivyton's/footsy/comical/Hispano**

**Question 4.4: /home/linuxuser/aljoegrep.txt - exists**

**121 ./joefiles.txt: 133 /usr/share/man/man1/jmacs.1.gz**

**122 ./joefiles.txt: 134 /usr/share/man/man1/jpico.1.gz**

**123 ./joefiles.txt: 135 /usr/share/man/man1/jstar.1.gz**

**Question 4.5: /home/linuxuser/alpinejoe.tar.bz2 - exists**

**-rw-rw-r-- linuxuser/linuxuser 4649 2019-01-01 14:21 joefiles.txt**

**-rw-rw-r-- linuxuser/linuxuser 245 2019-01-01 14:29 joemaintainer.txt**

**-rw-rw-r-- linuxuser/linuxuser 190 2019-01-01 14:31 joeremoved.txt**

**-rw-rw-r-- linuxuser/linuxuser 2006 2019-01-01 14:26 joestatus.txt**

**-rw-rw-r-- linuxuser/linuxuser 450 2019-01-01 14:42 alpineditor.txt**

**-rw-rw-r-- linuxuser/linuxuser 247 2019-01-01 14:34 alpinefiles.txt**

**-rw-rw-r-- linuxuser/linuxuser 410 2019-01-01 14:33 alpineinstall.txt**

**-rw-r--r-- linuxuser/linuxuser 298066 2019-01-01 14:32 alpine-pico\_2.20+dfsg1-2\_amd64.deb**

**-rw-rw-r-- linuxuser/linuxuser 0 2019-01-01 14:43 alpineremoved.txt**

**-rw-rw-r-- linuxuser/linuxuser 1168 2019-01-01 14:41 alpinestatus.txt**

**Question Toughie: /home/linuxuser/allx.tar.gz - exists**

**-rw-r--r-- root/root 524 2018-11-30 17:12 scripts/work/ancientism/blessedness's/xenoderm**

**-rw-r--r-- root/root 495 2018-11-30 17:16 scripts/work/congenialities/diaxone/xenophobia**