

CHAPTER 5 HANDS-ON PROJECTS (1-20)**Project 5-1**

```
[student@COS-047 ~]$ ls -l /etc
```

```
total 1492
```

```
drwxr-xr-x. 3 root root    97 Jan 22  2017 abrt
-rw-r--r--. 1 root root    16 Jul 21  2016 adjtime
-rw-r--r--. 1 root root 1518 Jun  7  2013 aliases
-rw-r--r--. 1 root root 12288 Jan 22  2017 aliases.db
drwxr-xr-x. 2 root root    49 Jan 22  2017 alsa
drwxr-xr-x. 2 root root  4096 Jan 22  2017 alternatives
-rw-----. 1 root root   541 Mar 31  2016 anacrontab
-rw-r--r--. 1 root root   55 Nov  4  2016 asound.conf
-rw-r--r--. 1 root root    1 Nov  5  2016 at.deny
drwxr-xr-x. 2 root root    31 Jan 22  2017 at-spi2
drwxr-x---. 3 root root    41 Jan 22  2017 audisp
drwxr-x---. 3 root root   102 Jan 22  2017 audit
-rw-r--r--. 1 root root 13386 Nov  5  2016 autofs.conf
-rw-----. 1 root root   232 Nov  5  2016 autofs_ldap_auth.conf
-rw-r--r--. 1 root root   795 Nov  5  2016 auto.master
drwxr-xr-x. 2 root root    6 Nov  5  2016 auto.master.d
-rw-r--r--. 1 root root   524 Nov  5  2016 auto.misc
-rwxr-xr-x. 1 root root  1260 Nov  5  2016 auto.net
-rwxr-xr-x. 1 root root   687 Nov  5  2016 auto.smb
drwxr-xr-x. 4 root root    94 Jan 22  2017 avahi
drwxr-xr-x. 2 root root  4096 Jan 22  2017 bash_completion.d
-rw-r--r--. 1 root root 2853 Nov  5  2016 bashrc
drwxr-xr-x. 2 root root    6 Nov 21  2016 binfmt.d
drwxr-xr-x. 2 root root   22 Jan 22  2017 bluetooth
drwxr-xr-x. 2 root root 12288 Jan 22  2017 brltty
-rw-r--r--. 1 root root 21929 Nov  5  2016 brltty.conf
-rw-r--r--. 1 root root   38 Nov 29  2016 centos-release
-rw-r--r--. 1 root root   51 Nov 29  2016 centos-release-upstream
drwxr-xr-x. 2 root root   28 Jan 22  2017 certmonger
-rw-r--r--. 1 root root  676 Nov  5  2016 cgconfig.conf
drwxr-xr-x. 2 root root    6 Nov  5  2016 cgconfig.d
-rw-r--r--. 1 root root  265 Jul 21  2016 cgrules.conf
-rw-r--r--. 1 root root  131 Nov  5  2016 cgsnapshot_blacklist.conf
drwxr-xr-x. 2 root root    6 Nov  5  2016 chkconfig.d
-rw-r--r--. 1 root root 1165 Dec  6  2016 chrony.conf
-rw-r-----. 1 root chrony  62 Jul 21  2016 chrony.keys
drwxr-xr-x. 2 root root   25 Jan 22  2017 cifs-utils
drwxr-xr-x. 2 root root   23 Jan 22  2017 conky
drwxr-xr-x. 2 root root   51 Jan 22  2017 cron.d
drwxr-xr-x. 2 root root   54 Jan 22  2017 cron.daily
-rw-----. 1 root root    0 Mar 31  2016 cron.deny
drwxr-xr-x. 2 root root   21 Jan 22  2017 cron.hourly
drwxr-xr-x. 2 root root    6 Jun  9  2014 cron.monthly
-rw-r--r--. 1 root root  451 Jun  9  2014 crontab
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drwxr-xr-x. 2 root root      6 Jun  9 2014 cron.weekly
-rw-----. 1 root root      0 Jul 21 2016 crypttab
-rw-r--r--. 1 root root 1620 Nov  5 2016 csh.cshrc
-rw-r--r--. 1 root root  841 Jun  7 2013 csh.login
drwxr-xr-x. 5 root lp      4096 Mar  5 18:57 cups
drwxr-xr-x. 2 root root     33 Jul 21 2016 cupshelpers
drwxr-xr-x. 4 root root     74 Jan 22 2017 dbus-1
drwxr-xr-x. 4 root root     29 Jul 21 2016 dconf
drwxr-xr-x. 2 root root     41 Jan 22 2017 default
drwxr-xr-x. 2 root root     22 Jan 22 2017 depmod.d
-rw-r--r--. 1 root root 129 Aug 17 2016 dhclient-eno16777984.conf
-rw-r--r--. 1 root root 129 Jan 11 01:38 dhclient-ens160.conf
drwxr-x---. 3 root root     23 Nov 14 2016 dhcp
-rw-r--r--. 1 root root 5090 Nov  4 2016 DIR_COLORS
-rw-r--r--. 1 root root 5725 Nov  4 2016 DIR_COLORS.256color
-rw-r--r--. 1 root root 4669 Nov  4 2016 DIR_COLORS.lightbgcolor
-rw-r--r--. 1 root root 1131 Nov 20 2015 dleyna-server-service.conf
-rw-r--r--. 1 root root 25213 Nov 11 2016 dnsmasq.conf
drwxr-xr-x. 2 root root      6 Nov 11 2016 dnsmasq.d
-rw-r--r--. 1 root root 1285 Nov 11 2016 dracut.conf
drwxr-xr-x. 2 root root     28 Jan 22 2017 dracut.conf.d
-rw-r--r--. 1 root root 4346 Nov  7 2016 drirc
-rw-r--r--. 1 root root    112 Nov  4 2016 e2fsck.conf
-rw-r--r--. 1 root root 4760 Jun  9 2014 enscript.cfg
-rw-r--r--. 1 root root      0 Nov  5 2016 environment
-rw-r--r--. 1 root root 1317 Nov  5 2016 ethertypes
-rw-r--r--. 1 root root      0 Jun  7 2013 exports
drwxr-xr-x. 2 root root      6 Nov 17 2016 exports.d
lrwxrwxrwx. 1 root root     56 Jul 21 2016 favicon.png -> /usr/share/icons/hicolor/16x16/apps/fedora-logo-icon.png
drwxr-xr-x. 2 root root     21 Jan 22 2017 fcoe
drwxr-xr-x. 2 root root     44 Jul 21 2016 festival
-rw-r--r--. 1 root root     70 Nov  5 2016 filesystems
drwxr-xr-x. 3 root root     17 Jul 21 2016 firefox
drwxr-x---. 5 root root  4096 Jan 22 2017 firewalld
drwxr-xr-x. 3 root root     36 Jan 22 2017 fonts
-rw-r--r--. 1 root root     20 Jun 24 2014 fprintd.conf
-rw-r--r--. 1 root root    465 Jul 21 2016 fstab
-rw-r--r--. 1 root root     38 Nov  4 2016 fuse.conf
drwxr-xr-x. 7 root root    102 Jul 21 2016 gconf
drwxr-xr-x. 2 root root      6 Nov 21 2016 gcrypt
-rw-r--r--. 1 root root  265 Nov  5 2016 gdbinit
drwxr-xr-x. 2 root root      6 Nov  5 2016 gdbinit.d
drwxr-xr-x. 6 root root    101 Jan 22 2017 gdm
drwxr-xr-x. 2 root root     25 Jan 22 2017 geoclue
-rw-r--r--. 1 root root    842 Nov  5 2016 GeoIP.conf
-rw-r--r--. 1 root root    858 Nov  5 2016 GeoIP.conf.default
drwxr-xr-x. 3 root root     17 Jan  4 2017 ghostscript
drwxr-xr-x. 2 root root      6 Nov  5 2016 gnupg
-rw-r--r--. 1 root root     94 Apr 29 2015 GREP_COLORS
drwxr-xr-x. 4 root root     38 Jul 21 2016 groff
-rw-r--r--. 1 root root 1033 Jan 22 2017 group
-rw-r--r--. 1 root root 1033 Jan 22 2017 group-
lrwxrwxrwx. 1 root root     22 Jan 22 2017 grub2.cfg -> ../boot/grub2/grub.cfg
drwx-----. 2 root root  4096 Jan 22 2017 grub.d
-----, 1 root root    838 Jul 21 2016 gshadow
-----, 1 root root    825 Jul 21 2016 gshadow-
drwxr-xr-x. 3 root root     19 Dec  6 2016 gss

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drwxr-xr-x. 2 root root      26 Jan 22  2017 gssproxy
-rw-r--r--. 1 root root    871 Jul 21  2016 hba.conf
-rw-r--r--. 1 root root      9 Jun  7  2013 host.conf
-rw-r--r--. 1 root root      8 Jan 11 01:38 hostname
-rw-r--r--. 1 root root    125 Jan 11 01:38 hosts
-rw-r--r--. 1 root root    370 Jun  7  2013 hosts.allow
-rw-r--r--. 1 root root    460 Jun  7  2013 hosts.deny
drwxr-xr-x. 2 root root      23 Jan 22  2017 hp
-rw-r--r--. 1 root root   3580 Nov  5  2016 idmapd.conf
lrwxrwxrwx. 1 root root      11 Jan 22  2017 init.d -> rc.d/init.d
-rw-r--r--. 1 root root    511 Nov  5  2016 inittab
-rw-r--r--. 1 root root    942 Jun  7  2013 inputrc
drwxr-xr-x. 3 root root      18 Jan 22  2017 ipa
drwxr-xr-x. 2 root root    4096 Jan 22  2017 iproute2
-rw-r--r--. 1 root root   2380 Nov 11  2016 ipsec.conf
drwx-----. 3 root root      48 Jan 22  2017 ipsec.d
-rw-----. 1 root root     31 Nov 11  2016 ipsec.secrets
drwxr-xr-x. 2 root root      50 Jan 22  2017 iscsi
-rw-r--r--. 1 root root     23 Nov 29  2016 issue
-rw-r--r--. 1 root root     22 Nov 29  2016 issue.net
drwxr-xr-x. 3 root root      59 Jul 21  2016 java
drwxr-xr-x. 2 root root      6 Nov 20  2015 jvm
drwxr-xr-x. 2 root root      6 Nov 20  2015 jvm-commmon
-rw-r--r--. 1 root root   6920 Jan 22  2017 kdump.conf
drwxr-xr-x. 3 root root      23 Jul 21  2016 kernel
-rw-r--r--. 1 root root     590 Dec  6  2016 krb5.conf
drwxr-xr-x. 2 root root      6 Dec  6  2016 krb5.conf.d
-rw-r--r--. 1 root root    478 Jan 17  2017 ksmtuned.conf
-rw-r--r--. 1 root root   75957 Jan 22  2017 ld.so.cache
-rw-r--r--. 1 root root     28 Feb 27  2013 ld.so.conf
drwxr-xr-x. 2 root root    4096 Jan 22  2017 ld.so.conf.d
-rw-r-----. 1 root root    191 Jul 14  2016 libaudit.conf
drwxr-xr-x. 2 root root      6 Nov  5  2016 libibverbs.d
drwxr-xr-x. 2 root root     33 Jan 22  2017 libnl
drwxr-xr-x. 6 root root    4096 Jan 22  2017 libreport
-rw-r--r--. 1 root root   2391 Oct 12  2013 libuser.conf
drwx-----. 4 root root    4096 Jan 22  2017 libvirt
-rw-r--r--. 1 root root     19 Jul 21  2016 locale.conf
lrwxrwxrwx. 1 root root      34 Jan 11 01:38 localtime -> /usr/share/zoneinfo/America/Denver
-rw-r--r--. 1 root root   2028 Nov  4  2016 login.defs
-rw-r--r--. 1 root root    662 Jul 31  2013 logrotate.conf
drwxr-xr-x. 2 root root    4096 Jan 22  2017 logrotate.d
drwxr-xr-x. 3 root root      41 Jan 22  2017 lsm
drwxr-xr-x. 6 root root      94 Jan 22  2017 lvm
-r--r--r--. 1 root root     33 Jul 21  2016 machine-id
-rw-r--r--. 1 root root     111 Nov  5  2016 magic
-rw-r--r--. 1 root root    1968 Dec 16  2014 mail.rc
-rw-r--r--. 1 root root   5122 Nov  7  2016 makedumpfile.conf.sample
-rw-r--r--. 1 root root   5171 Jun  9  2014 man_db.conf
drwxr-xr-x. 2 root root      6 Nov 20  2015 maven
-rw-r--r--. 1 root root    936 Nov  5  2016 mke2fs.conf
drwxr-xr-x. 2 root root      56 Jan 22  2017 modprobe.d
drwxr-xr-x. 2 root root      6 Nov 21  2016 modules-load.d
-rw-r--r--. 1 root root      0 Jun  7  2013 motd
lrwxrwxrwx. 1 root root      17 Jul 21  2016 mtab -> /proc/self/mounts
-rw-r--r--. 1 root root   2620 Jun 10  2014 mtools.conf
drwxr-xr-x. 2 root root      6 Jan 17  2017 multipath

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-rw-r--r--.	1	root	root	570	Nov	14	2016	my.cnf
drwxr-xr-x.	2	root	root	30	Jan	22	2017	my.cnf.d
-rw-r--r--.	1	root	root	8892	Jun	9	2014	nanorc
-rw-r--r--.	1	root	root	767	Nov	5	2016	netconfig
drwxr-xr-x.	8	root	root	4096	Jan	22	2017	NetworkManager
-rw-r--r--.	1	root	root	58	Nov	5	2016	networks
-rw-r--r--.	1	root	root	3390	Nov	17	2016	nfsmount.conf
-rw-r--r--.	1	root	root	1728	Jan	11	01:38	nsswitch.conf
-rw-r--r--.	1	root	root	1728	Aug	17	2016	nsswitch.conf.bak
-rw-r--r--.	1	root	root	1731	Dec	6	2016	nsswitch.conf.rpmnew
drwxr-xr-x.	3	root	root	49	Jan	22	2017	ntp
-rw-r--r--.	1	root	root	2000	Nov	14	2016	ntp.conf
-rw-r--r--.	1	root	root	91	Dec	3	2012	numad.conf
drwxr-xr-x.	2	root	root	6	Mar	5	2015	oddjob
-rw-r--r--.	1	root	root	4922	Mar	5	2015	oddjobd.conf
drwxr-xr-x.	2	root	root	68	Jul	21	2016	oddjobd.conf.d
drwxr-xr-x.	3	root	root	34	Jan	22	2017	openldap
drwxr-xr-x.	2	root	root	6	Nov	5	2016	opt
-rw-r--r--.	1	root	root	393	Nov	29	2016	os-release
drwxr-xr-x.	2	root	root	88	Jan	22	2017	PackageKit
drwxr-xr-x.	2	root	root	4096	Jan	22	2017	pam.d
-rw-r--r--.	1	root	root	2442	Jul	21	2016	passwd
-rw-r--r--.	1	root	root	2415	Jul	21	2016	passwd-
-rw-r--r--.	1	root	root	1362	Jun	9	2014	pbm2ppa.conf
-rw-r--r--.	1	root	root	2872	Jun	9	2014	pinforc
drwxr-xr-x.	3	root	root	20	Jul	21	2016	pkcs11
drwxr-xr-x.	9	root	root	91	Nov	5	2016	pki
drwxr-xr-x.	2	root	root	27	Nov	14	2016	plymouth
drwxr-xr-x.	5	root	root	49	Nov	5	2016	pm
-rw-r--r--.	1	root	root	6300	Jun	9	2014	pnm2ppa.conf
drwxr-xr-x.	5	root	root	69	Nov	5	2016	polkit-1
drwxr-xr-x.	2	root	root	6	Jun	9	2014	popt.d
drwxr-xr-x.	2	root	root	4096	Jul	21	2016	postfix
drwxr-xr-x.	3	root	root	4096	Jan	22	2017	ppp
drwxr-xr-x.	2	root	root	101	Jan	22	2017	prelink.conf.d
-rw-r--r--.	1	root	root	233	Jun	7	2013	printcap
-rw-r--r--.	1	root	root	1795	Nov	5	2016	profile
drwxr-xr-x.	2	root	root	4096	Jan	22	2017	profile.d
-rw-r--r--.	1	root	root	6545	Jun	7	2013	protocols
drwxr-xr-x.	2	root	root	75	Jan	22	2017	pulse
drwxr-xr-x.	2	root	root	22	Jan	22	2017	purple
drwxr-xr-x.	2	root	root	34	Jan	22	2017	python
drwxr-xr-x.	3	root	root	48	Jan	22	2017	qemu-ga
drwxr-xr-x.	2	root	root	49	Jan	22	2017	qemu-kvm
-rw-r--r--.	1	root	root	433	Sep	8	2015	radvd.conf
lrwxrwxrwx.	1	root	root	10	Jan	22	2017	rc0.d -> rc.d/rc0.d
lrwxrwxrwx.	1	root	root	10	Jan	22	2017	rc1.d -> rc.d/rc1.d
lrwxrwxrwx.	1	root	root	10	Jan	22	2017	rc2.d -> rc.d/rc2.d
lrwxrwxrwx.	1	root	root	10	Jan	22	2017	rc3.d -> rc.d/rc3.d
lrwxrwxrwx.	1	root	root	10	Jan	22	2017	rc4.d -> rc.d/rc4.d
lrwxrwxrwx.	1	root	root	10	Jan	22	2017	rc5.d -> rc.d/rc5.d
lrwxrwxrwx.	1	root	root	10	Jan	22	2017	rc6.d -> rc.d/rc6.d
drwxr-xr-x.	10	root	root	4096	Jan	22	2017	rc.d
lrwxrwxrwx.	1	root	root	13	Jan	22	2017	rc.local -> rc.d/rc.local
drwxr-xr-x.	2	root	root	54	Jan	22	2017	rdma
lrwxrwxrwx.	1	root	root	14	Jan	22	2017	redhat-release -> centos-release
-rw-r--r--.	1	root	root	1787	Jun	9	2014	request-key.conf

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drwxr-xr-x. 2 root root      74 Jan 22 2017 request-key.d
-rw-r--r--. 1 root root    143 Jan 23 16:08 resolv.conf
-rw-r--r--. 1 root root   1634 Dec 24 2012 rpc
drwxr-xr-x. 2 root root    4096 Jan 22 2017 rpm
-rw-r--r--. 1 root root    458 Nov 20 2015 rsyncd.conf
-rw-r--r--. 1 root root   3232 Nov  4 2016 rsyslog.conf
drwxr-xr-x. 2 root root     24 Jan 22 2017 rsyslog.d
-rw-r--r--. 1 root root    928 Nov  5 2016 rwtab
drwxr-xr-x. 2 root root     33 Jan 22 2017 rwtab.d
drwxr-xr-x. 2 root root     80 Jan 22 2017 samba
drwxr-xr-x. 3 root root    4096 Jul 21 2016 sane.d
drwxr-xr-x. 2 root root     62 Jan 22 2017 sasl2
drwxr-xr-x. 3 root root     32 Jul 21 2016 scl
-rw-----. 1 root root    221 Nov  5 2016 securetty
drwxr-xr-x. 6 root root    4096 Jan 22 2017 security
drwxr-xr-x. 5 root root     76 Jan 22 2017 selinux
-rw-r--r--. 1 root root  670293 Jun  7 2013 services
-rw-r--r--. 1 root root    216 Jan 17 2017 sestatus.conf
drwxr-xr-x. 2 root root     32 Jan 22 2017 setroubleshoot
drwxr-xr-x. 2 root root    4096 Jul 21 2016 setuptool.d
drwxr-xr-x. 3 root root     20 Jul 21 2016 sgml
-----, 1 root root   1435 Feb 20 14:58 shadow
-----, 1 root root   1435 Jul 21 2016 shadow-
-rw-r--r--. 1 root root     95 Jul 21 2016 shells
drwxr-xr-x. 3 root root     74 Jan 22 2017 skel
drwxr-xr-x. 3 root root     71 Jan 22 2017 smartmontools
-rw-r--r--. 1 root root    100 Dec  6 2016 sos.conf
drwxr-xr-x. 4 root root     53 Jul 21 2016 speech-dispatcher
drwxr-xr-x. 2 root root    4096 Jan 22 2017 ssh
drwxr-xr-x. 2 root root     18 Jan 22 2017 ssl
drwx--x--x. 3 sssd sssd     19 Jan 22 2017 sssd
-rw-r--r--. 1 root root    212 Nov  5 2016 statetab
drwxr-xr-x. 2 root root      6 Nov  5 2016 statetab.d
-rw-r--r--. 1 root root      0 Nov  5 2016 subgid
-rw-r--r--. 1 root root      0 Nov  5 2016 subuid
-rw-r-----. 1 root root   1786 Dec  6 2016 sudo.conf
-r--r-----. 1 root root   4222 Aug 17 2016 sudoers
drwxr-x---. 2 root root      6 Dec  6 2016 sudoers.d
-r--r-----. 1 root root   3907 Dec  6 2016 sudoers.rpmnew
-rw-r-----. 1 root root   3181 Dec  6 2016 sudo-ldap.conf
drwxr-xr-x. 6 root root    4096 Jan 23 16:08 sysconfig
-rw-r--r--. 1 root root    449 Nov  5 2016 sysctl.conf
drwxr-xr-x. 2 root root     27 Jan 22 2017 sysctl.d
drwxr-xr-x. 4 root root    4096 Jan 22 2017 systemd
lrwxrwxrwx. 1 root root     14 Jan 22 2017 system-release -> centos-release
-rw-r--r--. 1 root root     23 Nov 29 2016 system-release-cpe
drwxr-xr-x. 3 root root     19 Nov  5 2016 target
-rw-----, 1 tss tss    7046 Nov 20 2015 tcstd.conf
drwxr-xr-x. 2 root root      6 Jun 10 2014 terminfo
drwxr-xr-x. 2 root root      6 Jan 22 2017 tmpfiles.d
-rw-r--r--. 1 root root    375 Jan 17 2017 trusted-key.key
drwxr-xr-x. 2 root root     67 Jan 22 2017 tuned
drwxr-xr-x. 3 root root     51 Jan 22 2017 udev
drwxr-xr-x. 2 root root      6 Nov 20 2015 udisks2
drwxr-xr-x. 2 root root     65 Jan 22 2017 unbound
-rw-r--r--. 1 root root    513 Nov  4 2016 updatedb.conf
drwxr-xr-x. 2 root root     24 Jul 21 2016 UPower

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-rw-r--r--. 1 root root    1018 Nov  5 2016 usb_modeswitch.conf
-rw-r--r--. 1 root root     37 Jul 21 2016 vconsole.conf
-rw-r--r--. 1 root root   1982 Dec 21 2016 vimrc
-rw-r--r--. 1 root root   1982 Dec 21 2016 virc
drwxr-xr-x. 4 root root    4096 Jan 22 2017 vmware
drwxr-xr-x. 4 root root    4096 Jan 22 2017 vmware-tools
-rw-r--r--. 1 root root   4479 Nov  5 2016 wgetrc
drwxr-xr-x. 2 root root     32 Jan 22 2017 wpa_supplicant
-rw-r--r--. 1 root root      0 Jun  9 2014 wvdial.conf
drwxr-xr-x. 6 root root    4096 Jan 23 16:08 X11
drwxr-xr-x. 5 root root     94 Nov  5 2016 xdg
drwxr-xr-x. 2 root root      6 Nov  5 2016 xinetd.d
drwxr-xr-x. 2 root root     20 Jul 21 2016 xml
drwxr-xr-x. 6 root root     95 Jan 22 2017 yum
-rw-r--r--. 1 root root    970 Nov 15 2016 yum.conf
drwxr-xr-x. 2 root root    4096 Jan 22 2017 yum.repos.d
[student@COS-047 ~]$ ls -l /etc | more
total 1492
drwxr-xr-x. 3 root root     97 Jan 22 2017 abrt
-rw-r--r--. 1 root root    16 Jul 21 2016 adjtime
-rw-r--r--. 1 root root   1518 Jun  7 2013 aliases
-rw-r--r--. 1 root root  12288 Jan 22 2017 aliases.db
drwxr-xr-x. 2 root root     49 Jan 22 2017 alsa
drwxr-xr-x. 2 root root    4096 Jan 22 2017 alternatives
-rw-----. 1 root root    541 Mar 31 2016 anacrontab
-rw-r--r--. 1 root root    55 Nov  4 2016 asound.conf
-rw-r--r--. 1 root root      1 Nov  5 2016 at.deny
drwxr-xr-x. 2 root root     31 Jan 22 2017 at-spi2
drwxr-x---. 3 root root     41 Jan 22 2017 audisp
drwxr-x---. 3 root root    102 Jan 22 2017 audit
-rw-r--r--. 1 root root  13386 Nov  5 2016 autofs.conf
-rw-----. 1 root root    232 Nov  5 2016 autofs_ldap_auth.conf
-rw-r--r--. 1 root root    795 Nov  5 2016 auto.master
drwxr-xr-x. 2 root root      6 Nov  5 2016 auto.master.d
-rw-r--r--. 1 root root    524 Nov  5 2016 auto.misc
-rwxr-xr-x. 1 root root   1260 Nov  5 2016 auto.net
-rwxr-xr-x. 1 root root    687 Nov  5 2016 auto.smb
drwxr-xr-x. 4 root root     94 Jan 22 2017 avahi
drwxr-xr-x. 2 root root    4096 Jan 22 2017 bash_completion.d
-rw-r--r--. 1 root root   2853 Nov  5 2016 bashrc
drwxr-xr-x. 2 root root      6 Nov 21 2016 binfmt.d
drwxr-xr-x. 2 root root     22 Jan 22 2017 bluetooth
drwxr-xr-x. 2 root root  12288 Jan 22 2017 brltty
-rw-r--r--. 1 root root  21929 Nov  5 2016 brltty.conf
-rw-r--r--. 1 root root     38 Nov 29 2016 centos-release
-rw-r--r--. 1 root root     51 Nov 29 2016 centos-release-upstream
drwxr-xr-x. 2 root root     28 Jan 22 2017 certmonger
-rw-r--r--. 1 root root    676 Nov  5 2016 cgconfig.conf
drwxr-xr-x. 2 root root      6 Nov  5 2016 cgconfig.d
-rw-r--r--. 1 root root    265 Jul 21 2016 cgrules.conf
-rw-r--r--. 1 root root    131 Nov  5 2016 cgsnapshot_blacklist.conf
drwxr-xr-x. 2 root root      6 Nov  5 2016 chkconfig.d
-rw-r--r--. 1 root root   1165 Dec  6 2016 chrony.conf
-rw-r-----. 1 root chrony   62 Jul 21 2016 chrony.keys
drwxr-xr-x. 2 root root     25 Jan 22 2017 cifs-utils
drwxr-xr-x. 2 root root     23 Jan 22 2017 conky
drwxr-xr-x. 2 root root     51 Jan 22 2017 cron.d

```

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drwxr-xr-x. 2 root root      54 Jan 22 2017 cron.daily
-rw-----. 1 root root      0 Mar 31 2016 cron.deny
drwxr-xr-x. 2 root root     21 Jan 22 2017 cron.hourly
drwxr-xr-x. 2 root root      6 Jun  9 2014 cron.monthly
-rw-r--r--. 1 root root    451 Jun  9 2014 crontab
drwxr-xr-x. 2 root root      6 Jun  9 2014 cron.weekly
-rw-----. 1 root root      0 Jul 21 2016 crypttab
-rw-r--r--. 1 root root   1620 Nov  5 2016 csh.cshrc
-rw-r--r--. 1 root root    841 Jun  7 2013 csh.login
drwxr-xr-x. 5 root lp     4096 Mar  5 18:57 cups
drwxr-xr-x. 2 root root     33 Jul 21 2016 cupshelpers
drwxr-xr-x. 4 root root     74 Jan 22 2017 dbus-1
drwxr-xr-x. 4 root root     29 Jul 21 2016 dconf
drwxr-xr-x. 2 root root     41 Jan 22 2017 default
drwxr-xr-x. 2 root root     22 Jan 22 2017 depmod.d
-rw-r--r--. 1 root root    129 Aug 17 2016 dhclient-eno16777984.conf
-rw-r--r--. 1 root root    129 Jan 11 01:38 dhclient-ens160.conf
drwxr-x---. 3 root root     23 Nov 14 2016 dhcp
-rw-r--r--. 1 root root   5090 Nov  4 2016 DIR_COLORS
-rw-r--r--. 1 root root   5725 Nov  4 2016 DIR_COLORS.256color
-rw-r--r--. 1 root root   4669 Nov  4 2016 DIR_COLORS.lightbgcolor
-rw-r--r--. 1 root root    1131 Nov 20 2015 dleyna-server-service.conf
-rw-r--r--. 1 root root   25213 Nov 11 2016 dnsmasq.conf
drwxr-xr-x. 2 root root      6 Nov 11 2016 dnsmasq.d
-rw-r--r--. 1 root root    1285 Nov 11 2016 dracut.conf
drwxr-xr-x. 2 root root     28 Jan 22 2017 dracut.conf.d
-rw-r--r--. 1 root root   4346 Nov  7 2016 drirc
-rw-r--r--. 1 root root     112 Nov  4 2016 e2fsck.conf
-rw-r--r--. 1 root root   4760 Jun  9 2014 enscript.cfg
-rw-r--r--. 1 root root      0 Nov  5 2016 environment
-rw-r--r--. 1 root root   1317 Nov  5 2016 ethertypes
-rw-r--r--. 1 root root      0 Jun  7 2013 exports
drwxr-xr-x. 2 root root      6 Nov 17 2016 exports.d
lrwxrwxrwx. 1 root root     56 Jul 21 2016 favicon.png -> /usr/share/i
cons/hicolor/16x16/apps/fedora-logo-icon.png
drwxr-xr-x. 2 root root     21 Jan 22 2017 fcoe
drwxr-xr-x. 2 root root     44 Jul 21 2016 festival
-rw-r--r--. 1 root root     70 Nov  5 2016 filesystems
drwxr-xr-x. 3 root root     17 Jul 21 2016 firefox
drwxr-x---. 5 root root   4096 Jan 22 2017 firewalld
drwxr-xr-x. 3 root root     36 Jan 22 2017 fonts
-rw-r--r--. 1 root root    20 Jun 24 2014 fprintd.conf
-rw-r--r--. 1 root root    465 Jul 21 2016 fstab
-rw-r--r--. 1 root root     38 Nov  4 2016 fuse.conf
drwxr-xr-x. 7 root root    102 Jul 21 2016 gconf
drwxr-xr-x. 2 root root      6 Nov 21 2016 gcrypt
-rw-r--r--. 1 root root   265 Nov  5 2016 gdbinit
drwxr-xr-x. 2 root root      6 Nov  5 2016 gdbinit.d
drwxr-xr-x. 6 root root    101 Jan 22 2017 gdm
drwxr-xr-x. 2 root root     25 Jan 22 2017 geoclue
-rw-r--r--. 1 root root    842 Nov  5 2016 GeoIP.conf
-rw-r--r--. 1 root root    858 Nov  5 2016 GeoIP.conf.default
drwxr-xr-x. 3 root root     17 Jan  4 2017 ghostscript
drwxr-xr-x. 2 root root      6 Nov  5 2016 gnupg
-rw-r--r--. 1 root root     94 Apr 29 2015 GREP_COLORS
drwxr-xr-x. 4 root root     38 Jul 21 2016 groff
-rw-r--r--. 1 root root   1033 Jan 22 2017 group

```

```

-rw-r--r--. 1 root root      1033 Jan 22  2017 group-
lrwxrwxrwx. 1 root root      22 Jan 22  2017 grub2.cfg -> ../boot/grub2/
grub.cfg
drwx-----. 2 root root    4096 Jan 22  2017 grub.d
------. 1 root root      838 Jul 21  2016 gshadow
------. 1 root root      825 Jul 21  2016 gshadow-
drwxr-xr-x. 3 root root      19 Dec  6  2016 gss
drwxr-xr-x. 2 root root      26 Jan 22  2017 gssproxy
-rw-r--r--. 1 root root     871 Jul 21  2016 hba.conf
-rw-r--r--. 1 root root       9 Jun  7  2013 host.conf
-rw-r--r--. 1 root root       8 Jan 11 01:38 hostname
-rw-r--r--. 1 root root     125 Jan 11 01:38 hosts
-rw-r--r--. 1 root root     370 Jun  7  2013 hosts.allow
-rw-r--r--. 1 root root     460 Jun  7  2013 hosts.deny
drwxr-xr-x. 2 root root      23 Jan 22  2017 hp
-rw-r--r--. 1 root root    3580 Nov  5  2016 idmapd.conf
lrwxrwxrwx. 1 root root      11 Jan 22  2017 init.d -> rc.d/init.d
-rw-r--r--. 1 root root     511 Nov  5  2016 inittab
-rw-r--r--. 1 root root     942 Jun  7  2013 inputrc
drwxr-xr-x. 3 root root      18 Jan 22  2017 ipa
drwxr-xr-x. 2 root root    4096 Jan 22  2017 iproute2
-rw-r--r--. 1 root root   2380 Nov 11  2016 ipsec.conf
drwx-----. 3 root root      48 Jan 22  2017 ipsec.d
-rw-----. 1 root root     31 Nov 11  2016 ipsec.secrets
drwxr-xr-x. 2 root root      50 Jan 22  2017 iscsi
-rw-r--r--. 1 root root     23 Nov 29  2016 issue
-rw-r--r--. 1 root root     22 Nov 29  2016 issue.net
drwxr-xr-x. 3 root root      59 Jul 21  2016 java
drwxr-xr-x. 2 root root       6 Nov 20  2015 jvm
drwxr-xr-x. 2 root root       6 Nov 20  2015 jvm-commmon
-rw-r--r--. 1 root root   6920 Jan 22  2017 kdump.conf
drwxr-xr-x. 3 root root      23 Jul 21  2016 kernel
-rw-r--r--. 1 root root     590 Dec  6  2016 krb5.conf
drwxr-xr-x. 2 root root       6 Dec  6  2016 krb5.conf.d
-rw-r--r--. 1 root root     478 Jan 17  2017 ksmtuned.conf
-rw-r--r--. 1 root root   75957 Jan 22  2017 ld.so.cache
-rw-r--r--. 1 root root     28 Feb 27  2013 ld.so.conf
drwxr-xr-x. 2 root root    4096 Jan 22  2017 ld.so.conf.d
-rw-r-----. 1 root root     191 Jul 14  2016 libaudit.conf
drwxr-xr-x. 2 root root       6 Nov  5  2016 libibverbs.d
drwxr-xr-x. 2 root root      33 Jan 22  2017 libnl
drwxr-xr-x. 6 root root    4096 Jan 22  2017 libreport
-rw-r--r--. 1 root root   2391 Oct 12  2013 libuser.conf
drwx-----. 4 root root    4096 Jan 22  2017 libvirt
-rw-r--r--. 1 root root     19 Jul 21  2016 locale.conf
lrwxrwxrwx. 1 root root      34 Jan 11 01:38 localtime -> /usr/share/zon
einfo/America/Denver
-rw-r--r--. 1 root root    2028 Nov  4  2016 login.defs
-rw-r--r--. 1 root root     662 Jul 31  2013 logrotate.conf
drwxr-xr-x. 2 root root    4096 Jan 22  2017 logrotate.d
drwxr-xr-x. 3 root root      41 Jan 22  2017 lsm
drwxr-xr-x. 6 root root      94 Jan 22  2017 lvm
-r--r--r--. 1 root root     33 Jul 21  2016 machine-id
-rw-r--r--. 1 root root     111 Nov  5  2016 magic
-rw-r--r--. 1 root root    1968 Dec 16  2014 mail.rc
-rw-r--r--. 1 root root    5122 Nov  7  2016 makedumpfile.conf.sample
-rw-r--r--. 1 root root    5171 Jun  9  2014 man_db.conf

```



```

drwxr-xr-x. 2 root root      6 Nov 20 2015 maven
-rw-r--r--. 1 root root    936 Nov  5 2016 mke2fs.conf
drwxr-xr-x. 2 root root     56 Jan 22 2017 modprobe.d
drwxr-xr-x. 2 root root      6 Nov 21 2016 modules-load.d
-rw-r--r--. 1 root root      0 Jun  7 2013 motd
lrwxrwxrwx. 1 root root      17 Jul 21 2016 mtab -> /proc/self/mounts
-rw-r--r--. 1 root root   2620 Jun 10 2014 mtools.conf
drwxr-xr-x. 2 root root      6 Jan 17 2017 multipath
-rw-r--r--. 1 root root    570 Nov 14 2016 my.cnf
drwxr-xr-x. 2 root root     30 Jan 22 2017 my.cnf.d
-rw-r--r--. 1 root root   8892 Jun  9 2014 nanorc
-rw-r--r--. 1 root root    767 Nov  5 2016 netconfig
drwxr-xr-x. 8 root root    4096 Jan 22 2017 NetworkManager
-rw-r--r--. 1 root root     58 Nov  5 2016 networks
-rw-r--r--. 1 root root   3390 Nov 17 2016 nfsmount.conf
-rw-r--r--. 1 root root    1728 Jan 11 01:38 nsswitch.conf
-rw-r--r--. 1 root root    1728 Aug 17 2016 nsswitch.conf.bak
-rw-r--r--. 1 root root    1731 Dec  6 2016 nsswitch.conf.rpmnew
drwxr-xr-x. 3 root root      49 Jan 22 2017 ntp
-rw-r--r--. 1 root root   2000 Nov 14 2016 ntp.conf
-rw-r--r--. 1 root root     91 Dec  3 2012 numad.conf
drwxr-xr-x. 2 root root      6 Mar  5 2015 oddjob
-rw-r--r--. 1 root root   4922 Mar  5 2015 oddjobd.conf
drwxr-xr-x. 2 root root      68 Jul 21 2016 oddjobd.conf.d
drwxr-xr-x. 3 root root      34 Jan 22 2017 openldap
drwxr-xr-x. 2 root root      6 Nov  5 2016 opt
-rw-r--r--. 1 root root    393 Nov 29 2016 os-release
drwxr-xr-x. 2 root root      88 Jan 22 2017 PackageKit
drwxr-xr-x. 2 root root    4096 Jan 22 2017 pam.d
-rw-r--r--. 1 root root   2442 Jul 21 2016 passwd
-rw-r--r--. 1 root root   2415 Jul 21 2016 passwd-
-rw-r--r--. 1 root root   1362 Jun  9 2014 pbm2ppa.conf
-rw-r--r--. 1 root root   2872 Jun  9 2014 pinforc
drwxr-xr-x. 3 root root      20 Jul 21 2016 pkcs11
drwxr-xr-x. 9 root root      91 Nov  5 2016 pki
drwxr-xr-x. 2 root root      27 Nov 14 2016 plymouth
drwxr-xr-x. 5 root root      49 Nov  5 2016 pm
-rw-r--r--. 1 root root   6300 Jun  9 2014 pnm2ppa.conf
drwxr-xr-x. 5 root root      69 Nov  5 2016 polkit-1
drwxr-xr-x. 2 root root      6 Jun  9 2014 popt.d
drwxr-xr-x. 2 root root    4096 Jul 21 2016 postfix
drwxr-xr-x. 3 root root    4096 Jan 22 2017 ppp
drwxr-xr-x. 2 root root     101 Jan 22 2017 prelink.conf.d
-rw-r--r--. 1 root root     233 Jun  7 2013 printcap
-rw-r--r--. 1 root root    1795 Nov  5 2016 profile
drwxr-xr-x. 2 root root    4096 Jan 22 2017 profile.d
-rw-r--r--. 1 root root   6545 Jun  7 2013 protocols
drwxr-xr-x. 2 root root      75 Jan 22 2017 pulse
drwxr-xr-x. 2 root root      22 Jan 22 2017 purple
drwxr-xr-x. 2 root root      34 Jan 22 2017 python
drwxr-xr-x. 3 root root      48 Jan 22 2017 qemu-ga
drwxr-xr-x. 2 root root      49 Jan 22 2017 qemu-kvm
-rw-r--r--. 1 root root    433 Sep  8 2015 radvd.conf
lrwxrwxrwx. 1 root root      10 Jan 22 2017 rc0.d -> rc.d/rc0.d
lrwxrwxrwx. 1 root root      10 Jan 22 2017 rc1.d -> rc.d/rc1.d
lrwxrwxrwx. 1 root root      10 Jan 22 2017 rc2.d -> rc.d/rc2.d
lrwxrwxrwx. 1 root root      10 Jan 22 2017 rc3.d -> rc.d/rc3.d

```

```

lrwxrwxrwx. 1 root root      10 Jan 22 2017 rc4.d -> rc.d/rc4.d
lrwxrwxrwx. 1 root root      10 Jan 22 2017 rc5.d -> rc.d/rc5.d
lrwxrwxrwx. 1 root root      10 Jan 22 2017 rc6.d -> rc.d/rc6.d
drwxr-xr-x. 10 root root    4096 Jan 22 2017 rc.d
lrwxrwxrwx. 1 root root      13 Jan 22 2017 rc.local -> rc.d/rc.local
drwxr-xr-x. 2 root root      54 Jan 22 2017 rdma
lrwxrwxrwx. 1 root root      14 Jan 22 2017 redhat-release -> centos-re
lease
-rw-r--r--. 1 root root    1787 Jun  9 2014 request-key.conf
drwxr-xr-x. 2 root root       74 Jan 22 2017 request-key.d
-rw-r--r--. 1 root root    143 Jan 23 16:08 resolv.conf
-rw-r--r--. 1 root root   1634 Dec 24 2012 rpc
drwxr-xr-x. 2 root root    4096 Jan 22 2017 rpm
-rw-r--r--. 1 root root    458 Nov 20 2015 rsyncd.conf
-rw-r--r--. 1 root root   3232 Nov  4 2016 rsyslog.conf
drwxr-xr-x. 2 root root       24 Jan 22 2017 rsyslog.d
-rw-r--r--. 1 root root    928 Nov  5 2016 rwtab
drwxr-xr-x. 2 root root       33 Jan 22 2017 rwtab.d
drwxr-xr-x. 2 root root       80 Jan 22 2017 samba
drwxr-xr-x. 3 root root    4096 Jul 21 2016 sane.d
drwxr-xr-x. 2 root root       62 Jan 22 2017 sasl2
drwxr-xr-x. 3 root root       32 Jul 21 2016 scl
-rw-----. 1 root root    221 Nov  5 2016 securetty
drwxr-xr-x. 6 root root    4096 Jan 22 2017 security
drwxr-xr-x. 5 root root       76 Jan 22 2017 selinux
-rw-r--r--. 1 root root  670293 Jun  7 2013 services
-rw-r--r--. 1 root root    216 Jan 17 2017 sestatus.conf
drwxr-xr-x. 2 root root       32 Jan 22 2017 setroubleshoot
drwxr-xr-x. 2 root root    4096 Jul 21 2016 setuptool.d
drwxr-xr-x. 3 root root       20 Jul 21 2016 sgml
-----, 1 root root    1435 Feb 20 14:58 shadow
-----, 1 root root    1435 Jul 21 2016 shadow-
-rw-r--r--. 1 root root     95 Jul 21 2016 shells
drwxr-xr-x. 3 root root       74 Jan 22 2017 skel
drwxr-xr-x. 3 root root       71 Jan 22 2017 smartmontools
-rw-r--r--. 1 root root    100 Dec  6 2016 sos.conf
drwxr-xr-x. 4 root root       53 Jul 21 2016 speech-dispatcher
drwxr-xr-x. 2 root root    4096 Jan 22 2017 ssh
drwxr-xr-x. 2 root root       18 Jan 22 2017 ssl
drwx--x--x. 3 sssd sssd       19 Jan 22 2017 sssd
-rw-r--r--. 1 root root    212 Nov  5 2016 statetab
drwxr-xr-x. 2 root root        6 Nov  5 2016 statetab.d
-rw-r--r--. 1 root root        0 Nov  5 2016 subgid
-rw-r--r--. 1 root root        0 Nov  5 2016 subuid
-rw-r-----. 1 root root   1786 Dec  6 2016 sudo.conf
-r--r-----. 1 root root   4222 Aug 17 2016 sudoers
drwxr-x---. 2 root root        6 Dec  6 2016 sudoers.d
-r--r-----. 1 root root   3907 Dec  6 2016 sudoers.rpmnew
-rw-r-----. 1 root root   3181 Dec  6 2016 sudo-ldap.conf
drwxr-xr-x. 6 root root    4096 Jan 23 16:08 sysconfig
-rw-r--r--. 1 root root    449 Nov  5 2016 sysctl.conf
drwxr-xr-x. 2 root root       27 Jan 22 2017 sysctl.d
drwxr-xr-x. 4 root root    4096 Jan 22 2017 systemd
lrwxrwxrwx. 1 root root      14 Jan 22 2017 system-release -> centos-re
lease
-rw-r--r--. 1 root root     23 Nov 29 2016 system-release-cpe
drwxr-xr-x. 3 root root       19 Nov  5 2016 target

```

```

-rw-----. 1 tss tss    7046 Nov 20 2015 tcsd.conf
drwxr-xr-x. 2 root root    6 Jun 10 2014 terminfo
drwxr-xr-x. 2 root root    6 Jan 22 2017 tmpfiles.d
-rw-r--r--. 1 root root  375 Jan 17 2017 trusted-key.key
drwxr-xr-x. 2 root root    67 Jan 22 2017 tuned
drwxr-xr-x. 3 root root    51 Jan 22 2017 udev
drwxr-xr-x. 2 root root    6 Nov 20 2015 udisks2
drwxr-xr-x. 2 root root    65 Jan 22 2017 unbound
-rw-r--r--. 1 root root  513 Nov 4 2016 updatedb.conf
drwxr-xr-x. 2 root root    24 Jul 21 2016 UPower
-rw-r--r--. 1 root root 1018 Nov 5 2016 usb_modeswitch.conf
-rw-r--r--. 1 root root    37 Jul 21 2016 vconsole.conf
-rw-r--r--. 1 root root 1982 Dec 21 2016 vimrc
-rw-r--r--. 1 root root 1982 Dec 21 2016 virc
drwxr-xr-x. 4 root root  4096 Jan 22 2017 vmware
drwxr-xr-x. 4 root root  4096 Jan 22 2017 vmware-tools
-rw-r--r--. 1 root root 4479 Nov 5 2016 wgetrc
drwxr-xr-x. 2 root root    32 Jan 22 2017 wpa_supplicant
-rw-r--r--. 1 root root    0 Jun 9 2014 wvdial.conf
drwxr-xr-x. 6 root root  4096 Jan 23 16:08 X11
drwxr-xr-x. 5 root root    94 Nov 5 2016 xdg
drwxr-xr-x. 2 root root    6 Nov 5 2016 xinetd.d
drwxr-xr-x. 2 root root    20 Jul 21 2016 xml
drwxr-xr-x. 6 root root    95 Jan 22 2017 yum
-rw-r--r--. 1 root root  970 Nov 15 2016 yum.conf
drwxr-xr-x. 2 root root  4096 Jan 22 2017 yum.repos.d

```

Project 5-2

```
[student@COS-047 ~]$ ls /etc|sort -r|more
```

```

yum.repos.d
yum.conf
yum
xml
xinetd.d
xdg
X11
wvdial.conf
wpa_supplicant
wgetrc
vmware-tools
vmware
virc
vimrc
vconsole.conf
usb_modeswitch.conf
UPower
updatedb.conf
unbound
udisks2
udev
tuned
trusted-key.key

```

tmpfiles.d
terminfo
tcsd.conf
target
system-release-cpe
system-release
systemd
sysctl.d
sysctl.conf
sysconfig
sudo-ldap.conf
sudoers.rpmnew
sudoers.d
sudoers
sudo.conf
subuid
subgid
statetab.d
statetab
sssd
ssl
ssh
speech-dispatcher
sos.conf
smartmontools
skel
shells
shadow-
shadow
sgml
setuptools.d
setroubleshoot
sestatus.conf
services
selinux
security
securetty
scl
sasldb
sane.d
samba
rwtab.d
rwtab
rsyslog.d
rsyslog.conf
rsyncd.conf
rpm
rpc
resolv.conf
request-key.d
request-key.conf
redhat-release
rdma
rc.local
rc.d
rc6.d
rc5.d

rc4.d
rc3.d
rc2.d
rc1.d
rc0.d
radvd.conf
qemu-kvm
qemu-ga
python
purple
pulse
protocols
profile.d
profile
printcap
prelink.conf.d
ppp
postfix
popt.d
polkit-1
pnm2ppa.conf
pm
plymouth
pki
pkcs11
pinforc
pbm2ppa.conf
passwd-
passwd
pam.d
PackageKit
os-release
opt
openldap
oddjobd.conf.d
oddjobd.conf
oddjob
numad.conf
ntp.conf
ntp
nsswitch.conf.rpmnew
nsswitch.conf.bak
nsswitch.conf
nfsmount.conf
networks
NetworkManager
netconfig
nanorc
my.cnf.d
my.cnf
multipath
mtools.conf
mtab
motd
modules-load.d
modprobe.d
mke2fs.conf

maven
man_db.conf
makedumpfile.conf.sample
mail.rc
magic
machine-id
lvm
lsm
logrotate.d
logrotate.conf
login.defs
localtime
locale.conf
libvirt
libuser.conf
libreport
libnl
libibverbs.d
libaudit.conf
ld.so.conf.d
ld.so.conf
ld.so.cache
ksmtuned.conf
krb5.conf.d
krb5.conf
kernel
kdump.conf
jvm-common
jvm
java
issue.net
issue
iscsi
ipsec.secrets
ipsec.d
ipsec.conf
iproute2
ipa
inputrc
inittab
init.d
idmapd.conf
hp
hosts.deny
hosts.allow
hosts
hostname
host.conf
hba.conf
gssproxy
gss
gshadow-
gshadow
grub.d
grub2.cfg
group-
group

groff
GREP_COLORS
gnupg
ghostscript
GeoIP.conf.default
GeoIP.conf
geoclue
gdm
gdbinit.d
gdbinit
gcrypt
gconf
fuse.conf
fstab
fprintd.conf
fonts
firewalld
firefox
filesystems
festival
fcoe
favicon.png
exports.d
exports
ethertypes
environment
enscript.cfg
e2fsck.conf
drirc
dracut.conf.d
dracut.conf
dnsmasq.d
dnsmasq.conf
dley-na-server-service.conf
DIR_COLORS.lightbgcolor
DIR_COLORS.256color
DIR_COLORS
dhcp
dhclient-ens160.conf
dhclient-eno16777984.conf
depmod.d
default
dconf
dbus-1
cupshelpers
cups
csh.login
csh.cshrc
crypttab
cron.weekly
crontab
cron.monthly
cron.hourly
cron.deny
cron.daily
cron.d
conky

cifs-utils
chrony.keys
chrony.conf
chkconfig.d
cgsnapshot_blacklist.conf
cgrules.conf
cgconfig.d
cgconfig.conf
certmonger
centos-release-upstream
centos-release
brltty.conf
brltty
bluetooth
binfmt.d
bashrc
bash_completion.d
avahi
auto.smb
auto.net
auto.misc
auto.master.d
auto.master
autofs_ldap_auth.conf
autofs.conf
audit
audisp
at-spi2
at.deny
asound.conf
anacrontab
alternatives
alsa
aliases.db
aliases
adjtime
abrt

Project 5-3

```
[student@COS-047 ~]$ grep IBM /usr/share/doc/systemd/README
[student@COS-047 ~]$ grep IBM /usr/share/doc/systemd/README | more
[student@COS-047 ~]$ clear
[student@COS-047 ~]$ grep IBM /usr/share/doc/systemd/README | head
[student@COS-047 ~]$ grep Linux /etc/termcap
grep: /etc/termcap: No such file or directory
[student@COS-047 ~]$ grep Linux /usr/share/doc/systemd/README
    Linux kernel >= 3.7
    Linux kernel >= 3.8 for Smack support
    supported anymore by the basic set of Linux OS components.
[student@COS-047 ~]$ grep -i linux /etc/termcap
grep: /etc/termcap: No such file or directory
[student@COS-047 ~]$ grep -i linux /usr/share/doc/systemd/README
    Linux kernel >= 3.7
```


Linux kernel >= 3.8 for Smack support
libmount >= 2.20 (from util-linux)
libblkid >= 2.20 (from util-linux) (optional)
libselinux (optional)
util-linux >= v2.19 (requires fsck -l,agetty -s),
supported anymore by the basic set of Linux OS components.

```
[student@COS-047 ~]$ clear
```

```
[student@COS-047 ~]$ grep -i "^lin" /usr/share/doc/systemd/README
```

```
[student@COS-047 ~]$ grep linux/etc/*
```

```
[student@COS-047 ~]$ clear
```

```
[student@COS-047 ~]$ grep -l linux /etc/*
```

```
grep: /etc/abrt: Is a directory
```

```
grep: /etc/alsa: Is a directory
```

```
grep: /etc/alternatives: Is a directory
```

```
grep: /etc/anacrontab: Permission denied
```

```
grep: /etc/at-spi2: Is a directory
```

```
grep: /etc/audisp: Permission denied
```

```
grep: /etc/audit: Permission denied
```

```
/etc/autofs.conf
```

```
grep: /etc/autofs_ldap_auth.conf: Permission denied
```

```
grep: /etc/auto.master.d: Is a directory
```

```
/etc/auto.misc
```

```
grep: /etc/avahi: Is a directory
```

```
grep: /etc/bash_completion.d: Is a directory
```

```
grep: /etc/binfmt.d: Is a directory
```

```
grep: /etc/bluetooth: Is a directory
```

```
grep: /etc/brltty: Is a directory
```

```
grep: /etc/certmonger: Is a directory
```

```
/etc/cgconfig.conf
```

```
grep: /etc/cgconfig.d: Is a directory
```

```
grep: /etc/chkconfig.d: Is a directory
```

```
grep: /etc/chrony.keys: Permission denied
```

```
grep: /etc/cifs-utils: Is a directory
```

```
grep: /etc/conky: Is a directory
```

```
grep: /etc/cron.d: Is a directory
```

```
grep: /etc/cron.daily: Is a directory
```

```
grep: /etc/cron.deny: Permission denied
```

```
grep: /etc/cron.hourly: Is a directory
```

```
grep: /etc/cron.monthly: Is a directory
```

```
grep: /etc/cron.weekly: Is a directory
```

```
grep: /etc/crypttab: Permission denied
```

```
grep: /etc/cups: Is a directory
```

```
grep: /etc/cupshelpers: Is a directory
```

```
grep: /etc/dbus-1: Is a directory
```

```
grep: /etc/dconf: Is a directory
```

```
grep: /etc/default: Is a directory
```

```
grep: /etc/depmod.d: Is a directory
```

```
grep: /etc/dhcp: Permission denied
```

```
/etc/DIR_COLORS
```

```
/etc/DIR_COLORS.lightbgcolor
```

```
/etc/dnsmasq.conf
```

```
grep: /etc/dnsmasq.d: Is a directory
```

```
grep: /etc/dracut.conf.d: Is a directory
```

```
grep: /etc/exports.d: Is a directory
```

grep: /etc/fcoe: Is a directory
grep: /etc/festival: Is a directory
grep: /etc/firefox: Is a directory
grep: /etc/firewalld: Permission denied
grep: /etc/fonts: Is a directory
grep: /etc/gconf: Is a directory
grep: /etc/gcrypt: Is a directory
grep: /etc/gdbinit.d: Is a directory
grep: /etc/gdm: Is a directory
grep: /etc/geoclue: Is a directory
grep: /etc/ghostscript: Is a directory
grep: /etc/gnupg: Is a directory
grep: /etc/groff: Is a directory
grep: /etc/grub2.cfg: Permission denied
grep: /etc/grub.d: Permission denied
grep: /etc/gshadow: Permission denied
grep: /etc/gshadow-: Permission denied
grep: /etc/gss: Is a directory
grep: /etc/gssproxy: Is a directory
/etc/hba.conf
grep: /etc/hp: Is a directory
grep: /etc/init.d: Is a directory
/etc/inputrc
grep: /etc/ipa: Is a directory
grep: /etc/iproute2: Is a directory
/etc/ipsec.conf
grep: /etc/ipsec.d: Permission denied
grep: /etc/ipsec.secrets: Permission denied
grep: /etc/iscsi: Is a directory
grep: /etc/java: Is a directory
grep: /etc/jvm: Is a directory
grep: /etc/jvm-commmon: Is a directory
grep: /etc/kernel: Is a directory
grep: /etc/krb5.conf.d: Is a directory
/etc/ld.so.cache
grep: /etc/ld.so.conf.d: Is a directory
grep: /etc/libaudit.conf: Permission denied
grep: /etc/libibverbs.d: Is a directory
grep: /etc/libnl: Is a directory
grep: /etc/libreport: Is a directory
grep: /etc/libvirt: Permission denied
grep: /etc/logrotate.d: Is a directory
grep: /etc/lsm: Is a directory
grep: /etc/lvm: Is a directory
/etc/makedumpfile.conf.sample
grep: /etc/maven: Is a directory
grep: /etc/modprobe.d: Is a directory
grep: /etc/modules-load.d: Is a directory
/etc/mtab
grep: /etc/multipath: Is a directory
grep: /etc/my.cnf.d: Is a directory
grep: /etc/NetworkManager: Is a directory
grep: /etc/ntp: Is a directory
grep: /etc/odddjob: Is a directory
/etc/odddjobd.conf
grep: /etc/odddjobd.conf.d: Is a directory
grep: /etc/openldap: Is a directory

grep: /etc/opt: Is a directory
grep: /etc/PackageKit: Is a directory
grep: /etc/pam.d: Is a directory
cgrep: /etc/pkcs11: Is a directory
grep: /etc/pki: Is a directory
grep: /etc/plymouth: Is a directory
grep: /etc/pm: Is a directory
grep: /etc/polkit-1: Is a directory
grep: /etc/popt.d: Is a directory
grep: /etc/postfix: Is a directory
grep: /etc/ppp: Is a directory
grep: /etc/prelink.conf.d: Is a directory
grep: /etc/profile.d: Is a directory
grep: /etc/pulse: Is a directory
grep: /etc/purple: Is a directory
grep: /etc/python: Is a directory
grep: /etc/qemu-ga: Is a directory
grep: /etc/qemu-kvm: Is a directory
grep: /etc/rc0.d: Is a directory
grep: /etc/rc1.d: Is a directory
grep: /etc/rc2.d: Is a directory
grep: /etc/rc3.d: Is a directory
grep: /etc/rc4.d: Is a directory
grep: /etc/rc5.d: Is a directory
grep: /etc/rc6.d: Is a directory
grep: /etc/rc.d: Is a directory
grep: /etc/rdma: Is a directory
grep: /etc/request-key.d: Is a directory
grep: /etc/rpm: Is a directory
lgrep: /etc/rsyslog.d: Is a directory
egrep: /etc/rwtab.d: Is a directory
grep: /etc/samba: Is a directory
grep: /etc/sane.d: Is a directory
grep: /etc/sasl2: Is a directory
grep: /etc/scl: Is a directory
grep: /etc/securetty: Permission denied
grep: /etc/security: Is a directory
grep: /etc/selinux: Is a directory
/etc/sestatus.conf
grep: /etc/setroubleshoot: Is a directory
grep: /etc/setuptools.d: Is a directory
grep: /etc/sgml: Is a directory
grep: /etc/shadow: Permission denied
grep: /etc/shadow-: Permission denied
grep: /etc/skel: Is a directory
grep: /etc/smartmontools: Is a directory
/etc/sos.conf
grep: /etc/speech-dispatcher: Is a directory
grep: /etc/ssh: Is a directory
grep: /etc/ssl: Is a directory
grep: /etc/sss.d: Permission denied
grep: /etc/statetab.d: Is a directory
grep: /etc/sudo.conf: Permission denied
grep: /etc/sudoers: Permission denied
grep: /etc/sudoers.d: Permission denied
grep: /etc/sudoers.rpmnew: Permission denied
grep: /etc/sudo-ldap.conf: Permission denied

```
grep: /etc/sysconfig: Is a directory
grep: /etc/sysctl.d: Is a directory
grep: /etc/systemd: Is a directory
grep: /etc/target: Is a directory
grep: /etc/tcsd.conf: Permission denied
grep: /etc/terminfo: Is a directory
grep: /etc/tmpfiles.d: Is a directory
grep: /etc/tuned: Is a directory
grep: /etc/udev: Is a directory
grep: /etc/udisks2: Is a directory
grep: /etc/unbound: Is a directory
/etc/updatedb.conf
grep: /etc/UPower: Is a directory
/etc/vimrc
a/etc/virc
grep: /etc/vmware: Is a directory
grep: /etc/vmware-tools: Is a directory
grep: /etc/wpa_supplicant: Is a directory
grep: /etc/X11: Is a directory
grep: /etc/xdg: Is a directory
grep: /etc/xinetd.d: Is a directory
grep: /etc/xml: Is a directory
grep: /etc/yum: Is a directory
grep: /etc/yum.repos.d: Is a directory
[student@COS-047 ~]$ clear

[student@COS-047 ~]$ grep "IBM PC" /etc/termcap
grep: /etc/termcap: No such file or directory
[student@COS-047 ~]$ grep "IBM PC" /usr/share/doc/systemd/README
[student@COS-047 ~]$ clear

[student@COS-047 ~]$ ls /etc|grep magic
magic
[student@COS-047 ~]$ clear
```

Project 5-4

```
[student@COS-047 ~]$ vi zoo1

Monkeys:Bananas:2000:850.00

Lions:Raw Meat:4000:1245.50

Lions:Raw Meat:4000:1245.50

Camels:Vegetables:2300:564.75

Elephants:Hay:120000:1105.75

Elephants:Hay:120000:1105.75
```

~
~
~
:x

```
[student@COS-047 ~]$ vi zoo1
```

```
[student@COS-047 ~]$ uniq zoo1 > zoo2
```

```
[student@COS-047 ~]$ cat zoo2
```

Monkeys:Bananas:2000:850.00

Lions:Raw Meat:4000:1245.50

Camels:Vegetables:2300:564.75

Elephants:Hay:120000:1105.75

Project 5-5

```
[student@COS-047 ~]$ cat > my_list
```

Football

Basketball

Skates

Soccerball

```
[student@COS-047 ~]$ cp my_list your_list
```

```
[student@COS-047 ~]$ comm my_list your_list
```

Football

Basketball

Skates

Soccerball

```
[student@COS-047 ~]$ cat >> my_list
```

Golf ball

```
[student@COS-047 ~]$ comm my_list your_list
```

Football

Basketball

Skates

Soccerball

Golf ball

comm: file 1 is not in sorted order

```
[student@COS-047 ~]$ cat >> your_list
```

Tennis ball

```
[student@COS-047 ~]$ comm my_list your_list
```

Football

Basketball

Skates

Soccerball

Golf ball

comm: file 1 is not in sorted order

Tennis ball

Project 5-6

```
[student@COS-047 ~]$ more zoo1 zoo2
```

.....

zoo1

.....

Monkeys:Bananas:2000:850.00

Lions:Raw Meat:4000:1245.50

Lions:Raw Meat:4000:1245.50

Camels:Vegetables:2300:564.75

Elephants:Hay:120000:1105.75

Elephants:Hay:120000:1105.75

.....

zoo2

.....

Monkeys:Bananas:2000:850.00

Lions:Raw Meat:4000:1245.50

Camels:Vegetables:2300:564.75

Elephants:Hay:120000:1105.75

[student@COS-047 ~]\$ diff zoo1 zoo2

4d3

< Lions:Raw Meat:4000:1245.50

6d4

< Elephants:Hay:120000:1105.75

[student@COS-047 ~]\$ diff zoo2 zoo1

3a4

> Lions:Raw Meat:4000:1245.50

> Elephants:Hay:120000:1105.75

Project 5-7

```
[student@COS-047 ~]$ cat > counters
Linux is a full featured UNIX clone.
Linux is available in free and commercial versions.
[student@COS-047 ~]$ wc -l counters
2 counters
[student@COS-047 ~]$ wc -c counters
89 counters
[student@COS-047 ~]$ wc -w counters
15 counters
[student@COS-047 ~]$ wc -lwc

  1    0    1
[student@COS-047 ~]$ wc -wlc
  0    0    0
[student@COS-047 ~]$ wc -lwc
  0    0    0
[student@COS-047 ~]$ we -lwc counters
bash: we: command not found...
[student@COS-047 ~]$ wc -lwc counteres
wc: counteres: No such file or directory
[student@COS-047 ~]$ wc -lwc counters
2 15 89 counters
```

Project 5-8

```
[student@COS-047 ~]$ cat > unix_stuff
```

Although UNIX supports other database systems,

UNIX has never abandoned the idea of working with

flat files. Flat files are those that are based on pure

text with standard ASCII codes. Flat files

can be read by any operating system.

```
[student@COS-047 ~]$ sed -n 3,4p unix_stuff
```


flat files. Flat files are those that are based on pure

text with standard ASCII codes. Flat files

```
[student@COS-047 ~]$ sed -n -e 3,4d -e p unix_stuff
```

Although UNIX supports other database systems,

UNIX has never abandoned the idea of working with

can be read by any operating system.

```
[student@COS-047 ~]$ sed -n /Flat/p unix_stuff
```

flat files. Flat files are those that are based on pure

text with standard ASCII codes. Flat files

```
[student@COS-047 ~]$ sed -n s/Flat/Text/p unix_stuff
```

flat files. Text files are those that are based on pure

text with standard ASCII codes. Text files

Project 5-9 (NOTE: the sed and cat commands did not have an error, but it did not output unix_stuff2)

```
[student@COS-047 ~]$ vi morestuff
```

\$a\

Informix and Oracle, two major relational database\

companies have installed their RDBMS packages on UNIX\

systems for many years.

~

~

:X

s/UNIX/Linux/

s/abandoned/given up/

s/standard/regular/

~

~

:X

```
[student@COS-047 ~]$ clear
```

```
[student@COS-047 ~]$ sed -f stuff_replace unix_stuff > unix_stuff 2
```

sed: can't read 2: No such file or directory

```
[student@COS-047 ~]$ sed -f stuff_replace unix_stuff > unix_stuff2
```

```
[student@COS-047 ~]$ cat unix_stuff2
```

Project 5-10

```
[student@COS-047 ~]$ tr [a-z] [A-Z] < counters
```

LINUX IS A FULL FEATURED UNIX CLONE.

LINUX IS AVAILABLE IN FREE AND COMMERCIAL VERSIONS.

```
[student@COS-047 ~]$ tr -d 'full' < counters
```

Linux is a featured UNIX clone.

Linux is available in free and commercial versions.

```
[student@COS-047 ~]$ cat zoo2
```

Monkeys:Bananas:2000:850.00

Lions:Raw Meat:4000:1245.50

Camels:Vegetables:2300:564.75

Elephants:Hay:120000:1105.75

```
[student@COS-047 ~]$ tr -s ":" " " < zoo2
```

Monkeys Bananas 2000 850.00

Lions Raw Meat 4000 1245.50

Camels Vegetables 2300 564.75

Elephants Hay 120000 1105.75

Project 5-11

2018-03-06 13:08

UNIX Files & Databases

Page 1

Although UNIX supports other database systems, UNIX has never abandoned the idea of working with flat files. Flat files are those that are based on pure text with standard ASCII codes. Flat files can be read by any operating system.

Informix and Oracle, two major relational database companies have installed their RDBMS packages on UNIX systems for many years.

--More--

Although UNIX supports other database systems, UNIX has never abandoned the idea of working with flat files. Flat files are those that are based on pure text with standard ASCII codes. Flat files can be read by any operating system. Informix and Oracle, two major relational database companies have installed their RDBMS packages on UNIX systems for many years.

Project 5-12

[student@COS-047 ~]\$ vi programmer

101:Johnson:John:K:39000

102:King:Mary:K:39800

103:Brown:Gretchen:K:35000

104:Adams:Betty:C:42000

105:Utley:Amos:V:36000

106:Wilson:Patricia:B:39000

107:Culligan:Thomas:F:39000

108:Mitchell:Hillary:N:32800

109:Arbuckle:Margaret:F:46700

110:Ford:Terrence:H:44700

111:Greene:Sarah:L:41700

112:Rose:Richard:P:40200

113:Daniels:Allan:S:30500

114:Edwards:George:J:38500

~

~

:x

[student@COS-047 ~]\$ vi project

EA-100:1:Reservation Plus:110

EA-100:1:Reservation Plus:103

EA-100:1:Reservation Plus:107

EA-100:1:Reservation Plus:109

EA-101:2:Accounting-Revenues Version 4:105

EA-101:2:Accounting-Revenues Version 4:112

EA-102:4:Purchasing System:110

EA-103:3:Personnel Evaluations:106

WE-206:1:Reservations:102

WE-207:4:Accounting - Basic:101

WE-208:2:Executive-Decision-Maker:102

NE-300:1:Region P & L:103

NE-302:1:Housekeeping Logs:104

NE-304:4:Maintenance Logs:105

~

Project 5-13

```
[student@COS-047 ~]$ awk -F: '{printf "%d %-12.12s %-10.10s\n", $1, $2, $3}' programmer
```

```
101 Johnson    John
```

```
102 King      Mary
```

```
103 Brown     Gretchen
```

```
104 Adams     Betty
```

```
105 Utley     Amos
```

```
106 Wilson    Patricia
```

```
107 Culligan  Thomas
```

```
108 Mitchell  Hillary
```

```
109 Arbuckle  Margaret
```

```
110 Ford      Terrence
```

```
111 Greene    Sarah
```

```
112 Rose      Richard
```

```
113 Daniels   Allan
```

```
114 Edwards   George
```

```
0
```

Project 5-14

```
[student@COS-047 ~]$ cut -f 2 -d: programmer > temp1
```

```
[student@COS-047 ~]$ cut -f 5 -d: programmer > temp2
```

```
[student@COS-047 ~]$ past temp1 temp2 > progsal
```

```
bash: past: command not found...
```

```
[student@COS-047 ~]$ paste temp1 temp2 > progsal
```

```
[student@COS-047 ~]$ more progsal
```

```
Johnson      39000
```

```
King   39800
```

```
Brown 35000
```

```
Adams 42000
```

```
Utley  36000
```

```
Wilson 39000
```

```
Culligan     39000
```

```
Mitchell     32800
```

```
Arbuckle     46700
```

```
Ford   44700
```

```
Greene 41700
```

```
Rose   40200
```

```
Daniels      30500
```

```
Edwards      38500
```

```
[student@COS-047 ~]$ awk -F: '{printf "%-10.10s %7.0f\n", $2, $5}' programmer
```

```
Johnson      39000
```

```
King   39800
```

```
Brown  35000
```

```
Adams   42000
```

```
Utley   36000
```

```
Wilson  39000
```

```
Culligan  39000
```

Mitchell	32800
Arbuckle	46700
Ford	44700
Greene	41700
Rose	40200
Daniels	30500
Edwards	38500
	0

Project 5-15

```
[student@COS-047 ~]$ cut -d: -f4 project|sort|uniq > t1|cat t1
```

```
[student@COS-047 ~]$ cat t1
```

101

102

103

104

105

106

107

109

110

112

```
[student@COS-047 ~]$ cut -d: -f1 programmer|sort|uniq > t2; cat t2
```


101

102

103

104

105

106

107

108

109

110

111

112

113

114

```
[student@COS-047 ~]$ comm -13 t1 t2 > t3;cat t3
```

108

111

113

114

```
[student@COS-047 ~]$ sort -t: -k1 -o t4 programmer
```

```
[student@COS-047 ~]$ join -t: -1 1 -2 1 -o1.2 -o1.3 -o1.4 t4 t3 > t5; cat t5
```

Mitchell:Hillary:N

Greene:Sarah:L

Daniels:Allan:S

Edwards:George:J

```
[student@COS-047 ~]$ sed -n 's:/ /gp' < t5
```

Mitchell Hillary N

Greene Sarah L

Daniels Allan S

Edwards George J

Project 5-16

```
# =====  
  
# Script Name: pact  
  
# By: Your initials  
  
# Date: November 2009  
  
# Purpose: Create temporary file, pnum, to hold the  
# count of the number of projects each  
# programmer is working on. The pnum file  
# consists of:  
# prog_num and count fields  
  
# =====  
  
cut -d: -f4 project | sort | uniq -c | awk '{printf "%s:  
%s\n",$2,$1}' > pnum  
  
# cut prog_num, pipe output to sort to remove duplicates  
# and get count for prog/projects.  
  
# output file with prog_number followed by count  
  
~  
  
~
```

~

:X

Project 5-17

```
[student@COS-047 ~]$ sh pact
```

```
[student@COS-047 ~]$ less pnum
```

```
: 1
```

```
101: 1
```

```
102: 2
```

```
103: 2
```

```
104: 1
```

```
105: 2
```

```
106: 1
```

```
107: 1
```

```
109: 1
```

```
110: 2
```

```
112: 1
```

```
pnum (END)
```

Project 5-18

```
# =====
```

```
# Script Name: pnumname
```

```
# By: Your initials
```

Date: November 2009

Purpose: Extract Programmer Numbers and Names

=====

cut -d: -f1-4 programmer|sort -t: -k 1|uniq > pnn

The above cuts out fields 1 through 4.

The output is piped to a sort by programmer number.

The sorted output is piped to uniq to remove

duplicates.

Uniq redirects the output to pnn.

~

~

~

:x

[student@COS-047 ~]\$ sh pnumname

[student@COS-047 ~]\$ less pnn

101:Johnson:John:K

102:King:Mary:K

103:Brown:Gretchen:K

104:Adams:Betty:C

105:Utley:Amos:V

106:Wilson:Patricia:B

107:Culligan:Thomas:F

108:Mitchell:Hillary:N

109:Arbuckle:Margaret:F

110:Ford:Terrence:H

111:Greene:Sarah:L

112:Rose:Richard:P

113:Daniels:Allan:S

114:Edwards:George:J

pnn (END)

Project 5-19

```
[student@COS-047 ~]$ vi joinall
```

```
# =====
```

```
# Script Name: joinall
```

```
# By: CW
```

```
# Date: 3-6-18
```

```
# Purpose: Join pnum and pnn to create a report file
```

```
# =====
```

```
# Join the files including the unassigned programmers.
```

```
# You do this by placing the programmer names (pnn) file,
```

```
# first, in the join sequence.
```

```
# =====
```

```
join -t: -a1 -j1 1 -j2 1 pnn pnum > pactrep
```

```
~
```

```
~
```

```
:x
```

```
[student@COS-047 ~]$ sh joinall
```

```
[student@COS-047 ~]$ less pactrep
```

```
: 1
```

101:Johnson:John:K: 1
102:King:Mary:K: 2
103:Brown:Gretchen:K: 2
104:Adams:Betty:C: 1
105:Utley:Amos:V: 2
106:Wilson:Patricia:B: 1
107:Culligan:Thomas:F: 1
108:Mitchell:Hillary:N
109:Arbuckle:Margaret:F: 1
110:Ford:Terrence:H: 2
111:Greene:Sarah:L
112:Rose:Richard:P: 1
113:Daniels:Allan:S
114:Edwards:George:J
pactrep (END)

Project 5-20

[student@COS-047 ~]\$ vi practivity

cript Name: practivity

By: CW

Date: 3-6-18

Purpose: Generate Programmer Activity Status Report

=====

~

~

~

:r pact

cript Name: practivity

By: CW

Date: 3-6-18

Purpose: Generate Programmer Activity Status Report

=====

=====

Script Name: pact

By: Your initials

Date: November 2009

Purpose: Create temporary file, pnum, to hold the

count of the number of projects each

programmer is working on. The pnum file

consists of:

prog_num and count fields

=====

cut -d: -f4 project | sort | uniq -c | awk '{printf "%s: %s\n", \$2, \$1}' > pnum

cut prog_num, pipe output to sort to remove duplicates

and get count for prog/projects.

output file with prog_number followed by count

~

~

~

~

~

~

~

~

~

~

~

~

"pact" 15L, 574C 7,1 All

cut -d: -f1-4 programmer|sort -t: -k 1|uniq > pnn

The above cuts out fields 1 through 4.

The output is piped to a sort by programmer number.

The sorted output is piped to uniq to remove

duplicates.

Uniq redirects the output to pnn.

Script Name: pact

By: Your initials

Date: November 2009

Purpose: Create temporary file, pnum, to hold the

count of the number of projects each

programmer is working on. The pnum file

consists of:

prog_num and count fields

=====

cut -d: -f4 project | sort | uniq -c | awk '{printf "%s: %s\n",\$2,\$1}' > pnum

cut prog_num, pipe output to sort to remove duplicates

and get count for prog/projects.

output file with prog_number followed by count

=====

Script Name: joinall

By: CW

Date: 3-6-18

Purpose: Join pnum and pnn to create a report file

=====

Join the files including the unassigned programmers.

You do this by placing the programmer names (pnn) file,

first, in the join sequence.

=====

join -t: -a1 -j1 1 -j2 1 pnn pnum > pactrep

cut -d: -f1-4 programmer|sort -t: -k 1|uniq > pnn

cut -d: -f4 project | sort | uniq -c | awk '{printf "%s: %s\n", \$2, \$1}' > pnum

join -t: -a1 -j1 1 -j2 1 pnn pnum > pactrep

~

~

15 fewer lines

15,1

Bot

cut -d: -f1-4 programmer|sort -t: -k 1|uniq > pnn

cut -d: -f4 project | sort | uniq -c | awk '{printf "%s: %s\n", \$2, \$1}' > pnum

join -t: -a1 -j1 1 -j2 1 pnn pnum > pactrep

```
# Print the report
```

```
awk '
```

```
BEGIN {
```

```
{ FS = ":" }
```

```
{ print "\tProgrammer Activity Status Report\n" }
```

```
{ "date" | getline d }
```

```
{ printf "\t %s\n",d }
```

```
{ print "Prog# \t*--Name--* Projects\n" }
```

```
{ print "=====\n" }
```

```
}
```

```
{ printf "%-s\t%-12.12s %-12.12s %s\t%d\n",
```

```
$1, $2, $3, $4, $5 } ' pactrep
```

```
# remove all the temporary files
```

```
rm pnum pnn pactrep
```

```
~
```

```
~
```

```
~
```

```
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```

~

~

:X

9. Type `sh practivty` and press Enter. Figure 5-22 illustrates the report.

```
[student@COS-047 ~]$ sh practivty
Programmer Activity Status Report
```

```
Tue Mar 6 16:33:51 MST 2018
```

```
Prog# *--Name--* Projects
```

```
=====
```

	1		0	
101	Johnson	John	K	1
102	King	Mary	K	2
103	Brown	Gretchen	K	2
104	Adams	Betty	C	1
105	Utley	Amos	V	2
106	Wilson	Patricia	B	1
107	Culligan	Thomas	F	1
108	Mitchell	Hillary	N	0
109	Arbuckle	Margaret	F	1
110	Ford	Terrence	H	2
111	Greene	Sarah	L	0
112	Rose	Richard	P	1
113	Daniels	Allan	S	0
114	Edwards	George	J	0