Centro Universitario del Estado de México UAEM
Ingeniería en Computación

Sistemas Operativos

Tarea (Los hashes para los shells)

Profesor: Hazem Álvarez Rodríguez

Alumno: Ariadna Abigail Alanis Estrada

21 de noviembre de 2025

1.Utilizamos el comando **ls -l * sh** para poder ver la lista de nuestros shells


```
1872  clear
1873  sha256sum ubuntu-24.04.3-wsl-amd64.wsl
1874  history
uaem@DESKTOP-R3NKPLG:~$ ls -l * sh
ls: cannot access 'sh': No such file or directory
-rw-r--r-- 1 root root        59 Nov 19 12:44 AlanisAbigailFrankenstein.txt
-rw-r--r-- 1 root root       116 Nov 19 11:43 AlanisAbigailFrankenstein.txt}
-rw-r--r-- 1 root root       180 Nov 13 16:12 AlanisAbigailQuijote.txt
-rw-r--r-- 1 uaem uaem       626 Nov 19 11:23 AlanisAbigailQuijote.txt.gpg
-rw-r--r-- 1 uaem uaem      1214 Nov 13 16:55 FonsecaJaimeQuijote.txt.gpg
-rw-r--r-- 1 uaem uaem      1660 Nov 13 16:34 FonsecaJaimeQuijote.txt.gpg.gpg
-rw-r--r-- 1 uaem uaem      2369 Nov 13 16:39 FonsecaJaimeQuijote.txt.gpg.gpg.asc
-rw-r--r-- 1 uaem uaem        25 Nov 13 16:35 FonsecaJaimeQuijote.txt.gpg.gpg:Zone.Identifier
-rw-r--r-- 1 uaem uaem        25 Nov 13 16:55 FonsecaJaimeQuijote.txt.gpg:Zone.Identifier
-rw-r--r-- 1 uaem uaem       205 Oct 16 16:46 IDUNICO.txt
-rw-r--r-- 1 uaem uaem      3199 Nov 19 12:43 Jimkeys3.asc
-rw-r--r-- 1 root root        31 Nov  6 16:09 MyPer.txt
-rw-r--r-- 1 root root       110 Nov  6 16:12 MyPer.txt.gpg
-rwxr-xr-x 1 uaem uaem       587 Oct 30 15:54 RespSep24.sh
-rw-r--r-- 1 uaem uaem       833 Nov 20 16:13 SHA256SUMS.gpg
-rw-r--r-- 1 uaem uaem        25 Nov 20 16:14 SHA256SUMS.gpg:Zone.Identifier
-rw-r--r-- 1 uaem uaem       395 Sep 26 16:28 SO25B.txt
-rw-r--r-- 1 uaem uaem       395 Sep 26 16:37 UltCon25B.txt
-rw-r--r-- 1 root root        45 Nov  6 16:10 WePer.txt
-rw-r--r-- 1 uaem uaem       123 Nov  6 16:21 WePer.txt.gpg
-rw-r--r-- 1 uaem uaem     92747 Aug 22 07:55 'WhatsApp Image 2025-08-22 at 3.45.54 PM.jpeg'
-rw-r--r-- 1 uaem uaem        61 Aug 22 07:55 'WhatsApp Image 2025-08-22 at 3.45.54 PM.jpeg:Zone.Identifier'
-rw-r--r-- 1 root root        26 Nov  6 16:10 YourPer.txt
-rw-r--r-- 1 uaem uaem       208 Nov  6 16:14 YourPer.txt.asc
-rw-r--r-- 1 uaem uaem      5539 Nov 19 12:43 abigailkey.asc
-rw-r--r-- 1 uaem uaem      2468 Nov  7 16:47 abikey.asc
-rw-r--r-- 1 uaem uaem      1331 Nov 19 11:39 ariadnakey.asc
-rw-r--r-- 1 uaem uaem      6787 Nov 19 12:41 arikey.asc
-rw-r--r-- 1 uaem uaem       500 Nov 14 16:30 asistenciaAAEA.txt
-rw-r--r-- 1 root root        40 Nov  7 16:51 cancion.txt
-rw-r--r-- 1 uaem uaem       520 Nov  7 16:59 cancion.txt.gpg
-rw-r--r-- 1 uaem uaem       506 Nov  7 17:02 cancion1.txt.gpg
-rw-r--r-- 1 uaem uaem        25 Nov  7 17:03 cancion1.txt.gpg:Zone.Identifier
-rw-r--r-- 1 uaem uaem        61 Aug 22 07:59 cartas.jpeg:Zone.Identifier
-rw-r--r-- 1 uaem uaem     29075 Oct 10 15:02 comandos09Oct25.txt
-rwxr-xr-x 1 root root      2350 Oct 16 16:37 crear.sh
-rw-rw-r-- 1 uaem uaem       464 Oct 17 16:02 cronCF.txt
-rw-rw-r-- 1 uaem uaem        29 Oct 17 16:03 cronCF2.txt
-rw-r--r-- 1 uaem uaem        78 Nov  6 15:48 documento.txt
-rw-r--r-- 1 uaem uaem       265 Nov  6 15:54 documento.txt.asc
-rw-r--r-- 1 root root       149 Nov  6 16:03 documento.txt.gpg
-rw-r--r-- 1 uaem uaem        92 Sep 25 15:35 fonseca.txt
-rw-r--r-- 1 uaem uaem     27521 Nov  6 16:57 historial.txt
-rw-r--r-- 1 uaem uaem        15 Oct 16 16:13 hola_mundo.txt
-rw-r--r-- 1 uaem uaem      3029 Oct  3 16:38 iptables.rules
-rw-r--r-- 1 uaem uaem      2497 Nov  7 16:49 jimmykey.asc
```



```
-rw-r--r-- 1 root root       101 Oct 24 17:00 saludos1.txt.gpg
-rw-r--r-- 1 uaem uaem      5261 Nov  7 15:16 secretkey.asc
-rw-r--r-- 1 uaem uaem 6345887744 Nov 20 16:08 ubuntu-24.04.3-desktop-amd64.iso
-rw-r--r-- 1 uaem uaem        25 Nov 20 16:50 ubuntu-24.04.3-desktop-amd64.iso:Zone.Identifier
-rw-r--r-- 1 uaem uaem 379031026 Nov 20 16:25 ubuntu-24.04.3-wsl-amd64.wsl
-rw-r--r-- 1 uaem uaem        25 Nov 20 16:43 ubuntu-24.04.3-wsl-amd64.wsl:Zone.Identifier
-rw-rw-r-- 1 uaem uaem         0 Oct 17 16:30 update.txt
-rw-r--r-- 1 uaem uaem        94 Oct 16 16:31 usuarios.txt
-rw-r--r-- 1 uaem uaem       185 Oct 16 16:31 usuarios_readable.txt

backupNov25:
total 22872
-rw-rw-r-- 1 uaem uaem 5873878 Nov  7 17:05 backup071125_170500.tar.gz
-rw-rw-r-- 1 uaem uaem 5877867 Nov 10 17:05 backup101125_170501.tar.gz
-rw-r--r-- 1 uaem uaem 5827995 Oct 30 15:54 backup301025_155432.tar.gz
-rw-r--r-- 1 uaem uaem 5827995 Oct 30 16:01 backup301025_160102.tar.gz
-rw-r--r-- 1 uaem uaem     132 Oct 30 16:01 log_respaldo.txt

ejercicios_shell:
total 108
-rwxr-xr-x 1 root root  31 Nov 10 16:26 01-hola-mundo.sh
-rwxr-xr-x 1 root root  29 Nov 10 16:27 02-hola-parametros.sh
-rwxr-xr-x 1 root root 114 Nov 10 16:29 03-hola-al-menos-1-parametro.sh
-rwxr-xr-x 1 root root 287 Nov 10 16:32 04-hola-parametros-separados.sh
-rwxr-xr-x 1 root root 877 Nov 10 16:34 05-hola-con-ayuda.sh
-rwxr-xr-x 1 root root 993 Nov 10 16:36 06-hola-usuario.sh
-rwxr-xr-x 1 uaem uaem 407 Nov 10 16:49 09-ejercicio9.sh
-rwxr-xr-x 1 uaem uaem 614 Nov 10 16:51 10-ejercicio10.sh
-rwxr-xr-x 1 uaem uaem 727 Nov 10 16:52 11-ejercicio11.sh
-rwxr-xr-x 1 uaem uaem 628 Nov 10 16:54 12-ejercicio12.sh
-rwxr-xr-x 1 uaem uaem 460 Nov 10 16:55 13-ejercicio13.sh
-rwxr-xr-x 1 uaem uaem 650 Nov 10 16:55 14-ejercicio14.sh
-rwxr-xr-x 1 uaem uaem 635 Nov 10 16:56 15-ejercicio15.sh
-rwxr-xr-x 1 uaem uaem 784 Nov 10 16:57 16-ejercicio16.sh
-rwxr-xr-x 1 uaem uaem 635 Nov 10 16:58 17-ejercicio17.sh
-rwxr-xr-x 1 uaem uaem 741 Nov 10 16:59 18-ejercicio18.sh
-rwxr-xr-x 1 uaem uaem 609 Nov 10 17:00 19-ejercicio19.sh
-rwxr-xr-x 1 uaem uaem 546 Nov 10 17:01 20-ejercicio20.sh
-rwxr-xr-x 1 uaem uaem 628 Nov 10 17:01 21-ejercicio21.sh
-rwxr-xr-x 1 uaem uaem 618 Nov 10 17:03 22-ejercicio22.sh
-rwxr-xr-x 1 uaem uaem 422 Nov 10 17:03 22-ejercicio22.sh
-rwxr-xr-x 1 uaem uaem 618 Nov 10 17:04 23-ejercicio23.sh
-rwxr-xr-x 1 uaem uaem 838 Nov 10 17:04 24-ejercicio24.sh
-rwxr-xr-x 1 uaem uaem 710 Nov 10 17:06 25-ejercicio25.sh
-rw-r--r-- 1 root root  45 Nov 10 17:05 copia.txt
-rw-r--r-- 1 uaem uaem  45 Nov 10 16:50 nuevo_nombre.txt
-rw-r--r-- 1 uaem uaem  40 Nov 10 16:51 prueba10.txt
-rwxr-xr-x 1 root root 506 Nov 10 16:39 usuarioconectado

snap:
total 4
drwxr-xr-x 5 uaem uaem 4096 Nov 20 15:16 btop
```

sha256sum

2. Utilizamos el comando **sha256sum *.sh** para generar los hashes SHA-256, como la mayoría esta en la carpeta de ejercicios_shells nos metemos a esa carpeta con el comando **cd ejercicios_shells** y ejecutamos el comandando anterior otra vez como se muestra a continuación

3. Como quiero guardar los hashes los voy a meter en un txt con el comando **sha256sum *.sh > hashes.txt**

4. Con el siguiente comando podemos verificar los hashes **sha256sum -c hashes.txt**, esto comparará cada **script .sh** con el hash guardado en hashes.txt

Sha384sum

5. Ahora repetiremos lo anterior, pero con diferentes hashes en este caso es sha384sum

Sha512sum

```
25-ejercicio25.sh: OK
uaem@DESKTOP-R3NKPLG:~/ejercicios_shell$ sha512sum *.sh
54ea2397f640809fc94a6199a13ad91eab5b47c1225d5603ab1563687253a62480d15d4c47c20c356517ad53aa154f4411f3980ca1dbcd239af991eef1c58679  01-hola-mundo.sh
e11603fdaf35352e43447704e2b5829c0e009fcd5b4014c9b85fecdc4504e43fb934bcaa6983a6c9908a91c83988f32c580acc95e893f75db14d958e3d890f56  02-hola-parametros.sh
5c3368b54186dbdc520f9892b1bfacbf48f05b232833430ece2df442dfb4f8053c150c0b206204e76519691b63b2e7a120fb3ba74ffff48c1146658afd85c875  03-hola-al-menos-1-parametro.sh
da2966f5779becba910eddfb0a15c25ad8f19912633d465365b08994f65f099e7184ed51650c1256cb81cd68336c8768f2c650f1a2325707ffb4c1806a5308ca  04-hola-parametros-separados.sh
5a0b1e4162a6f4fa8147b3b67e97559a47f5d608d0cbef4713a682ce7cc9414ce0021526628634d5999aa7a2a5f8a606f5e2bd972a481954d2a45436c152d766  05-hola-con-ayuda.sh
042caa7d47b92096f94edfcb2d6e84420cac9486aabed2b945e1692067e239b7d2ec12d11684ea2c7bf2fe772f74ca750ce5f50dbacd516bf8721b8a9dbac0fb  06-hola-usuario.sh
37c7da46d79d14cda01c010e3381d9a826459a038a06c6fbb4fd3c3024abbc1e8fd3da116413f00f2ca020c108657d3b88a700747e4d504d63af2d720816ab05  09-ejercicio9.sh
3b128f62ea94a95b5e211fae8cb226f834b90c7277b1c17a8e5ea07c3c6ead3918966888a845a57914972cdd05de14ab884bcc7fc61e8eedf35080678c1e78dd  10-ejercicio10.sh
8b6efc6addda7aaf6f369645d5f1fe9f9db5975708cb13e70a0868d6c55200d1f377f2cb82f2175e08510e8ddcba6f4ecab5d67205fc48ceac1c90326571940a  11-ejercicio11.sh
c56f387403f40b3bded4eec5996e53b5db206ccbf3e0fc88f4c1149890fd551b812f3e31a5a1d851d37e9187a333a5f6dc6dafb7d629d0f479474f9f6a141b9a  12-ejercicio12.sh
6351b1fd319a32e1e11b98d21cf340217bebad619595fcfd4276f91796bae889d37453f5b399274bb968805763baba5d3106fca55b4c97bc60c29642f0330e8a  13-ejercicio13.sh
8bffc1fd6d96a767113680c13b11791443ae2a07e84128e9eba1a150c990a1afd9ef2bb62ad559b24765a742aabafb71efdd8c27da177897106d9d35ed8199580  14-ejercicio14.sh
082324ff89944e82cb4399cec5f01bf6a0b03ff00cf485d1323931e97729d29ab83f0f10245850d8b00abde7b6d1bfc85cf75ff0ccff8c65e8c333eb83d7de396  15-ejercicio15.sh
ce459cc5e860cbc5ca0cb40a1a2980c78e106511be76c88a12a37f21d01544705ce3f7f57722f98deb4853d929fcc57fb763edea86508d0bb87c7cb1588fea46  16-ejercicio16.sh
797e87dad0bd2117fab50dae764fe894ee98967fb79affc3acf6040610e75d5f8b1ffa8f0d7b0322a28c7a61d83d2cbc0a0558a9473f6b10813fd071c6874b85  17-ejercicio17.sh
08ba65765558061e75c95cbaa68e22d8182855a5c11fbc6df958021d5aa27e28bd9ad5e8a3b03167151b707efc8b8491da5f28cc869f8cfc04a0d82f2192fb04  18-ejercicio18.sh
50a8643b7178e6bdb2b568635da92669575ce4fd1bbad1d654acd53dc02352c4a937ce6c5af531e61b043ed28850abfbcfb74d2dbaa7f680ce310e8ac39644fb  19-ejercicio19.sh
2d4dfef6e43124937b608a31692722a87dc03fc276c58a696c529b19a6cd38c24e3ab4f3908db10307d4dabda40e733987b58bf647b396e3f4f6a42de65d9d772  20-ejercicio20.sh
a1f41dfcaaa8457a32d31cee9077ac2cf97173b45e8c7d3fa427afa3843c2438fb57982916c0e69a6e6f22413c0c667dcad49131d436b73758b016823a3b5bf4a  21-ejercicio21.sh
0c89ba6533ba82020f6396b2d6fdada9ab14da9ee35828e68bb88400ed0e9648c6effa58df4d961451bc969e34f2017873f5429c2969a75e5c139a470b8d3ca2  22-ejercicio22.sh
e83d2a1890176904d22defa6db9076ec4c451fd30f5e4c51e1fbf1f4b4a424dd88e8f637c8706a09cdf1e4c5f0a61b0f758e7bc79b2c5969f763cbf9a5633dc  23-ejercicio23.sh
91fa842e9fb111144a20cf46e64672b1b25dad58c7af84fb5632b37fceb336326e5011129538d447f9af3d63eb644a93f1407337c920114323a513b9291b9c13  24-ejercicio24.sh
f8942f01f46d46de2145d000606c7b3e58958acf32f590e8d09002bcdd19a6aca8371092f4a8973b14bcb2f9a396e8a4a788b26afbd8b44ffc8f5722e360be3a  25-ejercicio25.sh
uaem@DESKTOP-R3NKPLG:~/ejercicios_shell$ sha512sum -c hashes512.txt
sha512sum: hashes512.txt: No such file or directory
uaem@DESKTOP-R3NKPLG:~/ejercicios_shell$ sha512sum *.sh > hashes512.txt
uaem@DESKTOP-R3NKPLG:~/ejercicios_shell$ sha512sum -c hashes512.txt
01-hola-mundo.sh: OK
02-hola-parametros.sh: OK
03-hola-al-menos-1-parametro.sh: OK
04-hola-parametros-separados.sh: OK
05-hola-con-ayuda.sh: OK
06-hola-usuario.sh: OK
09-ejercicio9.sh: OK
10-ejercicio10.sh: OK
11-ejercicio11.sh: OK
12-ejercicio12.sh: OK
13-ejercicio13.sh: OK
14-ejercicio14.sh: OK
15-ejercicio15.sh: OK
16-ejercicio16.sh: OK
17-ejercicio17.sh: OK
18-ejercicio18.sh: OK
19-ejercicio19.sh: OK
20-ejercicio20.sh: OK
21-ejercicio21.sh: OK
22-ejercicio22.sh: OK
23-ejercicio23.sh: OK
24-ejercicio24.sh: OK
```

Sha224sum

```
Try: sudo apt install <deb name>
uaem@DESKTOP-R3NKPLG:~/ejercicios_shell$ sha224sum *.sh
6e681311b83f06c12645fd28a1055da03924c145ffbde2f136f71290  01-hola-mundo.sh
2717c83e295f9a403a5caa5e14a1134e91cccbc1feafadb23a73d7a2  02-hola-parametros.sh
5c58e7b73e573a09a1d93d08cf1eb7fab371bbd291531fdef67615ee  03-hola-al-menos-1-parametro.sh
f175cb2bf2d810751c21f126aacfc56e8856f63738b095ae0b16e903e  04-hola-parametros-separados.sh
c7d7b6476e4626def77830157ebf95881dde2b8c9f88dbf05fa170a0  05-hola-con-ayuda.sh
3556537cb947609602bbe065df89beb2df96710cea6cf7e887bfc2d9  06-hola-usuario.sh
d7fa6e3132e672b77f53462b6a44f4b6686884l780882c08f492a71f  09-ejercicio9.sh
206ab4f9f61d209e094151dd3bbf7d8020b6524819a0d03f6d74d193  10-ejercicio10.sh
32c42b987c1c012127edc49b07bad8afc8363493e9d52fa3b893464f  11-ejercicio11.sh
aef934882e0e3ffb100b49f2941a7ee2db3ae04bff7b7560ddd6a571  12-ejercicio12.sh
7e5cbf9965aa8c009a627c7b79047c45277bd4630c2b8c8201d913b6  13-ejercicio13.sh
b2ec1df82a975413115e573b880a8df88f7c9fea743ea38761ff75a2  14-ejercicio14.sh
02a88ebbe016c016178a6ef8c9acbfb89f2f8ef9ec870ed0c631cc04  15-ejercicio15.sh
6c3ecf66fd88510ea744a665ac77b5e5a6dc8a699cc6d9bfce4acbfa3  16-ejercicio16.sh
e826757a86f58db4abc15d2950c16aeacacb6173fb3c9416f7f72f29  17-ejercicio17.sh
61f4d447503aea115446b01c370921f2ecc2166137d706e9ea721a62a  18-ejercicio18.sh
99285e012e21521798edc6a3f7ba72eede8022a1813f92cd40a7afac  19-ejercicio19.sh
91a432f2c35f9dc02a2dc3e0224fe232272712a23c6df19a631e8f5f  20-ejercicio20.sh
61c1da800e333871150125502675e8b85c37e2de094fe0db7c2fca2e  21-ejercicio21.sh
16838447fdf03cf1d9f880be966a151ce57bc2cc53db1f95061521a0  22-ejercicio22.sh
2d4ad4a428c8082c2fba36de5d74c45c753b3735120b1a1e0fb9412c  23-ejercicio23.sh
dd472e98aa16205553e57410edf4cfd45cc3f32ade2c8d18c12687cb  24-ejercicio24.sh
77d6346ce88d48cc3c37bacf64a22c50c02de619efa849ec12292671  25-ejercicio25.sh
uaem@DESKTOP-R3NKPLG:~/ejercicios_shell$ sha224sum *.sh > hashes224.txt
uaem@DESKTOP-R3NKPLG:~/ejercicios_shell$ sha224sum -c hashes224.txt
01-hola-mundo.sh: OK
02-hola-parametros.sh: OK
03-hola-al-menos-1-parametro.sh: OK
04-hola-parametros-separados.sh: OK
05-hola-con-ayuda.sh: OK
06-hola-usuario.sh: OK
09-ejercicio9.sh: OK
10-ejercicio10.sh: OK
11-ejercicio11.sh: OK
12-ejercicio12.sh: OK
13-ejercicio13.sh: OK
14-ejercicio14.sh: OK
15-ejercicio15.sh: OK
16-ejercicio16.sh: OK
17-ejercicio17.sh: OK
18-ejercicio18.sh: OK
19-ejercicio19.sh: OK
20-ejercicio20.sh: OK
21-ejercicio21.sh: OK
22-ejercicio22.sh: OK
23-ejercicio23.sh: OK
24-ejercicio24.sh: OK
25-ejercicio25.sh: OK
uaem@DESKTOP-R3NKPLG:~/ejercicios_shell$
```

Sha1sum

```
25-ejercicio25.sh: OK
uaem@DESKTOP-R3NKPLG:~/ejercicios_shell$ sha1sum *.sh
f7d23948e2d9bdfab7024c10f21ee6a95de23a18  01-hola-mundo.sh
8cf8bec41936d26b5e8582779cc943966ec6404b  02-hola-parametros.sh
a3893133f60d4e944cf57d507d6579fed012e73a  03-hola-al-menos-1-parametro.sh
7351ec8d9b1bbd4e734338b4db2efe1e1d5a2280  04-hola-parametros-separados.sh
738764629f822cf7596e86a76903bccd6f0b9a49  05-hola-con-ayuda.sh
a5895ae241fd165078a16737e0959511918ced5d  06-hola-usuario.sh
b2088f7638eeeec1d147e160b39e09580f1349c1  09-ejercicio9.sh
78214cab30cb9da8b977826912247ba893a66324e  10-ejercicio10.sh
ba7c7eb503a2f2883c2b5a4defaf261ccf204313  11-ejercicio11.sh
9e7a5b67786617e5cbe9177575522f84d780a207  12-ejercicio12.sh
b6cd781c7004e591ebe5c7142f1b2b48a4a45a0d  13-ejercicio13.sh
781ca216d2982df07b47697e856870de79ad6833  14-ejercicio14.sh
75d862578614406c610b88f3c9585fe26f2ef832  15-ejercicio15.sh
725f814c49e3076e734afdad11e3f9e8c36c3e2c  16-ejercicio16.sh
188f1e26b8670961191403302cbba87eab5d966f  17-ejercicio17.sh
e28f12256422ed986e60565fb5e93682117769  18-ejercicio18.sh
90d0503f29ebf0177d6447a030b17cdf89005cbd  19-ejercicio19.sh
3297017ab9e85fd9dedd1beaba4f651f68cf759f  20-ejercicio20.sh
62fd7c623232e3019093db4081157384f0eba43a  21-ejercicio21.sh
b52bc71b43569d652a926732905fe6b3e589126e  22-ejercicio22.sh
f852f04799c89d5333bcb8c280253e0fc0e554a1  23-ejercicio23.sh
effd1cea22d091dcf73a1cefaf0e2ceefc62cc5a  24-ejercicio24.sh
3928cfa2007bd909213e4444fc6e0d0d9b02a6293  25-ejercicio25.sh
uaem@DESKTOP-R3NKPLG:~/ejercicios_shell$ sha1sum *.sh > hashes1.txt
uaem@DESKTOP-R3NKPLG:~/ejercicios_shell$ sha1sum -c hashes1.txt
01-hola-mundo.sh: OK
02-hola-parametros.sh: OK
03-hola-al-menos-1-parametro.sh: OK
04-hola-parametros-separados.sh: OK
05-hola-con-ayuda.sh: OK
06-hola-usuario.sh: OK
09-ejercicio9.sh: OK
10-ejercicio10.sh: OK
11-ejercicio11.sh: OK
12-ejercicio12.sh: OK
13-ejercicio13.sh: OK
14-ejercicio14.sh: OK
15-ejercicio15.sh: OK
16-ejercicio16.sh: OK
17-ejercicio17.sh: OK
18-ejercicio18.sh: OK
19-ejercicio19.sh: OK
20-ejercicio20.sh: OK
21-ejercicio21.sh: OK
22-ejercicio22.sh: OK
23-ejercicio23.sh: OK
24-ejercicio24.sh: OK
25-ejercicio25.sh: OK
uaem@DESKTOP-R3NKPLG:~/ejercicios_shell$
```

rmd160

```
uaem@DESKTOP-R3NKPLG:~/ejercicios_shell$ openssl rmd160 *.sh
RIPEMD-160(01-hola-mundo.sh)= 7528bbf3abe5151a6effa3d7f1559e4ac8e648aa
RIPEMD-160(02-hola-parametros.sh)= ba25004882d8a983e4ed449dd4a7fcbf22924925
RIPEMD-160(03-hola-al-menos-1-parametro.sh)= 61f43c5a4a998b12d9f7d9671d383b386338b6d0
RIPEMD-160(04-hola-parametros-separados.sh)= 46d733ca31987201832c55934ab7be1db1dbcf3d
RIPEMD-160(05-hola-con-ayuda.sh)= 65fe18903db5082aa9715aad63a6b6343d2fa67d
RIPEMD-160(06-hola-usuario.sh)= 0854959b32c4bfd2c83839f76140ba9203905f04
RIPEMD-160(09-ejercicio9.sh)= 4b3c7bb6b0c568133b5cc650d8d6ec3cd9079aef
RIPEMD-160(10-ejercicio10.sh)= bce7378470cea4eb74bda106cadb36694c66af4f
RIPEMD-160(11-ejercicio11.sh)= 8acbcae7a153520416232ab5ac669c0f745dc1bb
RIPEMD-160(12-ejercicio12.sh)= 53a3ce8ac427f2a03e993e936c09c4caa65e2a3c
RIPEMD-160(13-ejercicio13.sh)= 73dfde2ab3fa8e641b09ffdfe41f37babfeb6097
RIPEMD-160(14-ejercicio14.sh)= bb851e97c9684cc25bcccee7ae80bbe7a8f5ce27
RIPEMD-160(15-ejercicio15.sh)= 20ab44da0cc99fcc0d31e1d974329ceb94a7ee52
RIPEMD-160(16-ejercicio16.sh)= 190e973e9ccc62a7094647e63826b539798647cee
RIPEMD-160(17-ejercicio17.sh)= b8434230c8a564bbae031984f7ca816f1aa95187
RIPEMD-160(18-ejercicio18.sh)= fc7df387d2f6cb2040d35db3464de2e9173caeff
RIPEMD-160(19-ejercicio19.sh)= e4f87ef0bab90b72a4ed7cb714d4a88a9598460
RIPEMD-160(20-ejercicio20.sh)= 728363174e60b25c9f3557af537513692456c42e
RIPEMD-160(21-ejercicio21.sh)= 9629c83719d61404fa0d7890a9cd57de53340ef1
RIPEMD-160(22-ejercicio22.sh)= 1d7e3dbec5e95f65b12a9e519de39e944a6eac75
RIPEMD-160(23-ejercicio23.sh)= 5627dae01ef851056f5a3fcb0f4864ff5ea6dbe0
RIPEMD-160(24-ejercicio24.sh)= f25d233038ce4fa5a1397dc50065c3bc3d769ceb
RIPEMD-160(25-ejercicio25.sh)= 681f2bb99bab693f5789218f74686f34b76a3be2
uaem@DESKTOP-R3NKPLG:~/ejercicios_shell$ openssl rmd160 -c hashes160.txt
hashes160.txt: No such file or directory
406788E44F710000:error:80000000:system library:file_ctrl:No such file or directory:../crypto/bio/bss_file.c:297:calling fopen(hashes160.txt, r)
406788E44F710000:error:10080002:BIO routines:file_ctrl:system lib:../crypto/bio/bss_file.c:300:
uaem@DESKTOP-R3NKPLG:~/ejercicios_shell$ openssl rmd160 *.sh > hashes160.txt
uaem@DESKTOP-R3NKPLG:~/ejercicios_shell$ openssl rmd160 -c hashes160.txt
RIPEMD-160(hashes160.txt)= 51:d1:2d:94:bc:45:0b:9f:9a:41:75:20:f1:33:8a:c6:42:69:61:12
uaem@DESKTOP-R3NKPLG:~/ejercicios_shell$
```