**Executables**

You're familiar with the idea of reading and writing data into files. But what about *executing* them? Executable files are just files where the data stored inside is a program that you can run on your computer.

Files with a .sh extension are [shell scripts](https://en.wikipedia.org/wiki/Shell_script). They're just text files that contain shell commands. You can run a file in your shell by typing its filepath:

mydir/program.sh

Interestingly, if the program is in the current directory (in this example, the mydir directory), you need to prefix it with ./ to run it:

./program.sh

As far as file paths go, ./program.sh and program.sh are the same. The dot (.) is an alias for the current directory. We *need* the prefix when running executables so that the shell knows we're trying to run a file from a file path, not an installed command like ls, mkdir, chmod, etc.

**Assignment**

There seems to be a suspicious script in the worldbanc/private/bin directory called genids.sh. It looks like it generates some type of identifier... First, let's **remove our ability to run it**, just to see what happens. The chmod command has a convenient -x flag that will simply remove the executable permission from the file.

1. Run the following commands in worldbanc/private/bin:

chmod -x genids.sh

1. Let's test those permission changes. Try to run the script:

./genids.sh

You should get an error like this:

permission denied

1. That error occurs because the executable permission has been removed. Let's re-add the executable permission for the owner:

chmod u+x <filename>

1. Once you've done that, try running the ./genids.sh script again.

Paste the output of the script into the input field and submit your answer.

**Tips**

You'll frequently download scripts from the internet to run on your machine, and often you'll need to make them executable before you can run them. I use chmod +x quite often as a developer.

The internet is a shady place. Only run verified scripts from trusted publishers and authors.

codemaster@Money:~/worldbanc/private$ ls

bin cmd contacts customers logs transactions

codemaster@Money:~/worldbanc/private$ cd bin

codemaster@Money:~/worldbanc/private/bin$ chmod -x genids.sh

codemaster@Money:~/worldbanc/private/bin$ ls

genids.sh malicious.sh process\_transactions.sh warn.sh worldbanc.sh

codemaster@Money:~/worldbanc/private/bin$ ./genids.sh

-bash: ./genids.sh: Permission denied

codemaster@Money:~/worldbanc/private/bin$ ^C

codemaster@Money:~/worldbanc/private/bin$ chmod u+x <filename>

-bash: syntax error near unexpected token `newline'

codemaster@Money:~/worldbanc/private/bin$ chmod u+x ./genids.sh

codemaster@Money:~/worldbanc/private/bin$ ./genids.sh

ID-3478058268

ID-3441885333

ID-3439307794

ID-3388271495

ID-3358344960

ID-3393565321

ID-3416071694

ID-3226680739

ID-3247149348

ID-3127757497

ID-3149227582

ID-3118240695

codemaster@Money:~/worldbanc/private/bin$