

UT 12.

INTRODUCTION TO SHELL SCRIPTING

Activities

Computer Systems
CFGS DAW / DAM

Álvaro Maceda
a.macedaarranz@edu.gva.es

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Nomenclature

Throughout this unit different symbols will be used to distinguish important elements within the content. These symbols are:



Important



Attention



Interesting

UT 12. INTRODUCTION TO SHELL SCRIPTING

ACTIVITIES

In these activities, you will be writing code for the bash shell. If you don't have it installed in your system you will need to use a Docker container or a virtual machine.

Take in account that there are different solutions for the exercises.

1. EXERCISE 1

```
#!/usr/bin/env bash

password=""
while [[ $password != "password123" ]]; do
    read -p "Enter password: " password
done

echo "Access granted!"
```

2. EXERCISE 2

```
#!/usr/bin/env bash

if [ $# -ne 2 ]; then
    echo "Error: Expected two arguments."
    exit 1
fi

if [ $1 -gt $2 ]; then
    echo "Error: First argument must be less or equal to second argument."
    exit 1
fi

for ((i=$1; i<=$2; i++)); do
    echo $i
done
```

3. EXERCISE 3

```
#!/usr/bin/env bash

sum=0

while true; do
    read -p "Enter a number: " num
    if [ $num -lt 0 ]; then
        break
    fi
    sum=$((sum + num))
done

echo "The sum is: $sum"
```

4. EXERCISE 4

```
#!/usr/bin/env bash

height=$1

for ((i=1; i<=height; i++)); do
    for ((j=1; j<=i; j++)); do
        echo -n "*"
    done
    echo ""
done
```

5. EXERCISE 5

```
#!/usr/bin/env bash

filename=$1
search_word=$2

while read -r line; do
    count=0
    for word in $line; do
        if [[ "$word" == "$search_word" ]]; then
            ((count++))
        fi
    done
    echo "$count: $line"
done < "$filename"
```