

# Solución de Problemas con Programación (TC1017)

## Homework 02

30.01.19

### Functions

Program in MATLAB/Octave the following functions:

a) The function `duplica`

- **Receives** a single parameter,  $x$ .
- **Returns** twice the value of  $x$ .
- Example: `duplica(20)  $\implies$  40`.

b) The function `sumar`

- **Receives** three parameters.
- **Returns** the sum of the three parameters.
- Example: `sumar(2,3,5)  $\implies$  10`.

c) The function `holapueblo`

- **Receives** a single parameter,  $x$ .
- **Prints**: "Hola" if  $x$  is divisible by 3
- **Prints**: "Pueblo" if  $x$  is divisible by 5
- **Prints**: "Hola Pueblo" if  $x$  is divisible by 3 and by 5
- **Prints**: "No" if  $x$  does not fall in any other previous case.
- Example: `holapueblo(30)  $\implies$  "Hola Pueblo"`

You should upload a **ZIP** compressed file containing **three MATLAB files** with **.m** extension: `duplica.m`, `sumar.m` and `holapueblo.m`. Each file should have the corresponding function and its documentation in this format:

```
function output = functionname(x)
% NAME: Arturo Gonzalez
% STUDENT ID: A01170065
% FUNCTIONNAME output = functionname (x)
% FUNCTIONNAME returns some magic
% You can use it like this
% functionname(parameters) = returnvalue
...
```

## Recommendations:

- Ensure to completely understand how `function`, `if`, `else`, `end` and `mod` commands work in MATLAB.
- You may need the `elseif` command. Use `help <functionname>` to learn how to use any command you need.
- To **print** a value, you can do that either with `sprintf` or `disp`. To delimit a whole phrase to print, use double quotes: `disp("Hola Pueblo Viejo y Sabio")`.
- Remember that if you need to save a value to use it later, you can assign it to a variable, like this:  
`out = x + 7`.
- Ensure you're running MATLAB in the same directory where your files are stored, take a look at the path in the top of your editor and the path in the top of the file explorer in the left.
- Make sure your files are named exactly as your functions.
- Use lowercase names for your files, with no spaces, symbols or accents.
- Don't forget to **document your functions** and include your name and Student ID in the specified format above.