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Writeup for challenge How-Many-Fingers

ABOUT ECSC

The growing need for IT security professionals is widely acknowledged worldwide. To help mitigate this shortage of skills, many countries launched national cybersecurity competitions targeting towards students, university graduates or even non-ICT professionals with a clear aim to find new and young cyber talents and encourage young people to pursue a career in cyber security. The European Cyber Security Challenge (ECSC) leverages on these competitions by adding a pan-European layer.

The European Cyber Security Challenge is an initiative by the European Union Agency for Cybersecurity (ENISA) and aims at enhancing cybersecurity talent across Europe and connecting high potentials with industry leading organizations.

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1. Information regarding the challenge

## Description of the challenge

A strange thing has been flying by your ship, its design was rather similar to our space probes. We've managed to get in on-board for a while and extract two interesting items. A plaque that is strangely similar to the Pioneer plaque, we've released into the space with a few key differences.

First of all, instead of a man and a woman, there are three strange 3-eyed blobs with 2 seven-fingered hands. Second - and this is getting weird - there is also something that looks like a clipboard with a few papers. While the script is obviously of some alien origin, we've managed to decipher its contents. The approximate translation are in the attached files.

## Challenge specification

* Challenge Category: Miscellaneous
* Difficulty: Easy
* Expected time to solve: 30m

## Technical Specification

The challenge is made up of 3 plaintext files.

The challenge is static: **all files are provided to contesters for analysis**.

### Required infrastructure

No infrastructure is required to prepare the challenge. Solving can be done offline. More in *2.2 Installation Instructions*.

### Provided files

Figure 1: List of files

|  |  |  |  |
| --- | --- | --- | --- |
| File name | Format | Comment | Checksum (SHA256) |
| task.zip | ZIP archive | Challenge file | 05224e3fec261d0011199dadf35b3e4a7fd2fd278383d696e4ae0e8d52350a59 |

1. Attack Scenario

## Description of the scenario

Participants must recover flag from three plaintext files by

## Installation Instructions

You have to distribute the ZIP file to the contestants.

## Tools needed for solving the challenge

Needed tools are:

* General Linux tools
* Scripting language (Solver script is in Python)

## Walkthrough (Writeup)

This task is a play on the meaning of base 10. If you are using different base than we do then for you base 10. The plaque specifies that the aliens have 14 fingers, the second paper shows that in their "natural" base it is denoted as 10.

Using this knowledge, we can readily translate the sequence of numbers into **ThebAse10d3p3Nds0NTH3d3fAuLtbAse**, yielding flag **ECSC{ThebAse10d3p3Nds0NTH3d3fAuLtbAse}**.

You can use this Python script to solve the challenge.

def decode\_char(encoded\_char: str) -> str:

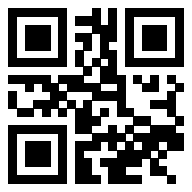
    return chr(int(encoded\_char[0]) \* 14 + int(encoded\_char[1]))

chars =

"60,76,73,70,49,83,73,37,36,72,39,80,39,58,72,83,36,58,60,52,39,72,39,\

74,49,85,56,84,70,49,83,73"

print("".join(list(map(decode\_char, a.split(",")))))



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