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### **Actividad 3.3 Practicando los Lenguajes Libres de Contexto**

#### **Módulos en Elixir:**

##### **EBNF**

DEF\_MODULE ::= 'defmodule' MODULE\_NAME 'do' '\n' '\t' CODE '\n' 'end'

MODULE\_NAME ::= CAP\_LETTER [ {LETTER | CAP\_LETTER | DIGIT | '\_' } ]

CAP\_LETTER ::= 'A' | 'B' | 'C' | 'D' | 'E' | 'F' | 'G' | 'H' | 'I' | 'J' | 'K' | 'L' | 'M' | 'N' |  
'O' | 'P' | 'Q' | 'R' | 'S' | 'T' | 'U' | 'V' | 'W' | 'X' | 'Y' | 'Z' |

LETTER ::= 'a' | 'b' | 'c' | 'd' | 'e' | 'f' | 'g' | 'h' | 'i' | 'j' | 'k' | 'l' | 'm' | 'n' | 'o' | 'p' | 'q' |  
'r' | 's' | 't' | 'u' | 'v' | 'w' | 'x' | 'y' | 'z'

DIGIT ::= '0' | '1' | '2' | '3' | '4' | '5' | '6' | '7' | '8' | '9'

##### **BNF**

<def-module> ::= defmodule <module-name> do \n \t <code> \n end

<module-name> ::= <cap-letter> | <cap-letter> <string>

<cap-letter> ::= A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U  
| V | W | X | Y | Z |

<string> ::= <string-chars> | <string-chars> <string>

<string-chars> ::= A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T |  
U | V | W | X | Y | Z | a | b | c | d | e | f | g | h | i | j | k | l | m | n | o | p | q | r | s | t | u | v |  
w | x | y | z | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | \_

## Funciones en Elixir:

### EBNF

FUNCTION ::= 'def' FUNCTION\_NAME '(' [ARGUMENTS] ')' 'do' CODE 'end'

FUNCTION\_NAME ::= LETTER | \_ [ {CAP\_LETTER | '\_' | LETTER | DIGIT} ]

ARGUMENTS ::= VARIABLE [ {',' VARIABLE} ]

VARIABLE ::= LETTER [ {CAP\_LETTER | '\_' | LETTER | DIGIT} ]

CAP\_LETTER ::= 'A' | 'B' | 'C' | 'D' | 'E' | 'F' | 'G' | 'H' | 'I' | 'J' | 'K' | 'L' | 'M' | 'N' | 'O' | 'P' | 'Q' | 'R' | 'S' | 'T' | 'U' | 'V' | 'W' | 'X' | 'Y' | 'Z' |

LETTER ::= 'a' | 'b' | 'c' | 'd' | 'e' | 'f' | 'g' | 'h' | 'i' | 'j' | 'k' | 'l' | 'm' | 'n' | 'o' | 'p' | 'q' | 'r' | 's' | 't' | 'u' | 'v' | 'w' | 'x' | 'y' | 'z'

DIGIT ::= '0' | '1' | '2' | '3' | '4' | '5' | '6' | '7' | '8' | '9'

### BNF

<function> ::= def <function-name> ( <arguments> | λ ) do \n \t <code> \n end

<function-name> ::= <letter> | <letter> <string>

<arguments> ::= <variable> | <variable> , <arguments>

<variable> ::= <letter> | <letter> <string>

<string> ::= <string-chars> | <string-chars> <string>

<string-chars> ::= A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | a | b | c | d | e | f | g | h | i | j | k | l | m | n | o | p | q | r | s | t | u | v | w | x | y | z | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | \_

<letter> ::= a | b | c | d | e | f | g | h | i | j | k | l | m | n | o | p | q | r | s | t | u | v | w | x | y | z