

# SE2062 Project – FormLang++ DSL

## Grammar Definition and Syntax Rules

form ::= "form" identifier "{" [ meta\_section ] { form\_section } [ validation\_section ]  
"}"

meta\_section ::= "meta" { meta\_entry }

meta\_entry ::= identifier "=" value ";"

form\_section ::= "section" identifier "{" { field\_definition } "

field\_definition ::= field\_type identifier { attribute } ";"

field\_type ::= "text"  
| "textarea"  
| "number"  
| "email"  
| "date"  
| "checkbox"  
| "dropdown"  
| "radio"  
| "password"  
| "file"

attribute ::= "required"  
| "pattern" "=" string  
| "default" "=" value  
| "min" "=" number  
| "max" "=" number  
| "rows" "=" number  
| "cols" "=" number  
| "accept" "=" string  
| "options" "=" "[" value\_list "]"

value\_list ::= value { "," value }

validation\_section ::= "validate" "{" { condition } "

condition ::= "if" expression "then" "error" string ";"

expression ::= identifier comparison\_operator value

comparison\_operator ::= "<" | ">" | "<=" | ">=" | "==" | "!="

value ::= string | number

identifier ::= letter { letter | digit | "\_" }

string ::= "'" { character } "'"

number ::= digit { digit }

character ::= letter | digit | symbol | space

letter ::= "a" | ... | "z" | "A" | ... | "Z"

digit ::= "0" | "1" | "2" | "3" | "4" | "5" | "6" | "7" | "8" | "9"

symbol ::= "-" | "\_" | "." | "@" | "#" | "\$" | "%" | "&" | "\*" |

space ::= " "

## terminals

"form", "meta", "section", "validate", "if", "then", "error",  
"=", ";", "{", "}", "<", ">", "<=", ">=", "==", "!=", "[",  
"]", ",", "

## Non terminals

form, meta\_section, meta\_entry, form\_section,  
field\_definition,  
field\_type, attribute, value\_list, validation\_section,  
condition,  
expression, comparison\_operator, value, identifier, string,  
number,  
character, letter, digit, symbol, space