

This was the BNF grammar solution provided on Blackboard.

### **Terminals**

HAI	::=	“HAI”
KTHXBYE	::=	“KTHXBYE”
OBTW	::=	“OBTW”
TLDR	::=	“TLDR”
MAEK	::=	“MAEK”
OIC	::=	“OIC”
GIMMEH	::=	“GIMMEH”
MKAY	::=	“MKAY”
HEAD	::=	“HEAD”
TITLE	::=	“TITLE”
PARAGRAF	::=	“PARAGRAF”
BOLD	::=	“BOLD”
ITALICS	::=	“ITALICS”
LIST	::=	“LIST”
ITEM	::=	“ITEM”
NEWLINE	::=	“NEWLINE”
SOUNDZ	::=	“SOUNDZ”
VIDZ	::=	“VIDZ”
IHAZ	::=	“#I HAZ”
ITIZ	::=	“#IT IZ”
LEMMESEE	::=	“#LEMME SEE”

VARDEF ::= any single word (A-Z, a-z, no spaces)

VARVAL ::= allowed text characters

TEXT ::= plain text (letters, digits, punctuation, spaces)

ADDRESS ::= text without spaces

\*Note that these terminals are not case sensitive.

\*\*The only allowed plain text in our language is: A-Z, a-z, 0-9, commas, period, quotes, colons, question marks, underscores and forward slashes

### Production Rules (i.e., non-terminals)

<lolcode> ::= HAI <comments> <head> <body> KTHXBYE

<comments> ::= <comment> <comments> |  $\epsilon$

<comment> ::= OBTW TEXT TLDR

<head> ::= MAEK HEAD < > OIC |  $\epsilon$

<title> ::= GIMMEH TITLE TEXT MKAY

<body> ::= <inner-body> <body> |  $\epsilon$

<inner-body> ::= <paragraph> | <bold> | <italics> | <list> | <audio> | <newline> |  
 <variable-define> | <variable-use> | TEXT | <comment>

<paragraph> ::= MAEK PARAGRAF <variable-define> <inner-paragraph> OIC

<inner-paragraph> ::= <inner-text> <inner-paragraph> |  $\epsilon$

<inner-text> ::= <variable-use> | <bold> | <italics> | <list> | <audio> | <video> | <newline> |  
 TEXT |  $\epsilon$

<bold> ::= GIMMEH BOLD TEXT MKAY

<italics> ::= GIMMEH ITALICS TET MKAY

<list> ::= MAEK LIST <list-items> OIC

$\langle \text{list-items} \rangle ::= \langle \text{list-item} \rangle \langle \text{list-items} \rangle \mid \epsilon$

$\langle \text{list-item} \rangle ::= \text{GIMMEH ITEM } \langle \text{inner-list} \rangle \text{ MKAY}$

$\langle \text{inner-list} \rangle ::= \langle \text{bold} \rangle \mid \langle \text{italics} \rangle \mid \text{TEXT} \mid \langle \text{variable-use} \rangle \mid \epsilon$

$\langle \text{audio} \rangle ::= \text{GIMMEH SOUNDZ ADDRESS MKAY}$

$\langle \text{newline} \rangle ::= \text{GIMMEH VIDZ ADDRESS MKAY}$

$\langle \text{variable-define} \rangle ::= \text{IHAZ VARDEF ITIZ TEXT MKAY} \mid \epsilon$

$\langle \text{variable-use} \rangle ::= \text{LEMME SEE VAR\_NAME MKAY}$