Final Exam

Name: Gregory Mindley

NSID: RGQ924

Course: Ling 349

Lecturer: Jesse Stewart

GitHub Link - https://github.com/rgq924/ling.git

My language choice is Swahili also known as Kiswahili. It is a major language spoken in some east African countries such as Kenya, Tanzania, and Uganda.

I have used Html, CSS, and JavaScript to create the underlying logic and interface.

After opening the **index.html** in a browser. It requires entering a regular Swahili verb, selecting the (English) pronoun for the verb and pressing the conjugate button. This output the present tense, past tense and future tense of that verb.

Though the functions are written in JavaScript I have included the equivalent in R software below. Please note this function does not have a user input so each verb must be hardcoded before executing.

R function to conjugate Swahili regular verbs

```r
# Function to conjugate a Swahili verb in present, past, and future tense

conjugate_verb <- function(infinitive, subject_pronoun) {

 # Define the suffixes for each subject pronoun in different tenses

 present_suffixes <- c("ni", "u", "a", "tu", "m", "wa")   # Present tense

 past_suffixes <- c("nil", "ul", "al", "tul", "ml", "wal") # Past tense

 future_suffixes <- c("nita", "uta", "ata", "tuta", "mta", "wata") # Future tense

 pronouns <- c("I", "you (singular)", "he/she/it", "we", "you (plural)", "they")


 # Convert infinitive to lowercase and trim whitespace
```

```r
  infinitive <- tolower(trimws(infinitive))


  # Check if the infinitive ends with 'a', 'i', 'e', or 'u'
 if (grepl("[aieu]$", infinitive)) {
   # Remove the last character and create the base verb
   base_verb <- sub("[aieu]$", "", infinitive)
   index <- match(subject_pronoun, pronouns)


   if (!is.na(index)) {
     # Create conjugated forms for each tense
     present_verb <- paste(base_verb, present_suffixes[index], sep = "")
     past_verb <- paste(base_verb, past_suffixes[index], sep = "")
     future_verb <- paste(future_suffixes[index], base_verb, sep = "")


     return(list(present = present_verb, past = past_verb, future = future_verb))
   } else {
     return("Invalid subject pronoun.")
   }
 } else {
   return(paste("Invalid infinitive form:", infinitive, "- Ensure it ends with 'a', 'i', 'e', or 'u'."))
 }
}


# Main script to take user input. Enter the infinitive in the single quotes like 'Soma'
cat("Enter a regular Swahili verb in its infinitive form (ending with 'a', 'i', 'e', or 'u'): ")
infinitive_verb <- 'Soma'


# Conjugate the verb for different subject pronouns
```

```r
for (pronoun in c("I", "you (singular)", "he/she/it", "we", "you (plural)", "they")) {

  conjugated_verbs <- conjugate_verb(infinitive_verb, pronoun)

  if (is.list(conjugated_verbs)) {

    cat(pronoun, ":\n")

    cat("  Present Tense: ", conjugated_verbs$present, "\n")

    cat("  Past Tense: ", conjugated_verbs$past, "\n")

    cat("  Future Tense: ", conjugated_verbs$future, "\n\n")

  } else {

    cat(conjugated_verbs, "\n")  # Print any error message

  }

}
```