Write a TCL code to:

1. define and call a procedure
2. handle errors and expressions using the catch command.
3. search the pattern starting with “SwitiSpeaks” using the ‘regexp’ command
4. redirect the output of a command to a file
5. increment the value of a variable ‘var’ using ‘incr’ command
6. read & write to a file
7. access the length of a string or list
8. compare 2 strings
9. evaluate an expression conditionally using ‘?:’ ternary operator

# Define and call a procedure

proc greet {name} {

puts "Hello, $name!"

}

# Call the procedure

greet "TCL User"

# Handle errors and expressions using the 'catch' command

set result [catch {expr {10 / 0}} errorMsg]

if {$result != 0} {

puts "Error occurred: $errorMsg"

} else {

puts "Expression result: $result"

}

# Search the pattern starting with "SwitiSpeaks" using the 'regexp' command

set input "SwitiSpeaks is great!"

if {[regexp {^SwitiSpeaks} $input]} {

puts "Pattern matched: 'SwitiSpeaks' found at the beginning of the string"

} else {

puts "Pattern not found"

}

# Redirect the output of a command to a file

set filename "output.txt"

set fileId [open $filename "w"]

puts $fileId "This is the output of a command being redirected to a file."

close $fileId

# Increment the value of a variable 'var' using 'incr' command

set var 5

incr var 3 ;# Increment 'var' by 3

puts "The value of var after increment: $var"

# Read and write to a file

# Writing to a file

set fileId [open "myfile.txt" "w"]

puts $fileId "This is some text written to the file."

close $fileId

# Reading from a file

set fileId [open "myfile.txt" "r"]

set content [read $fileId]

close $fileId

puts "File content: $content"

# Access the length of a string or list

set myString "Hello, TCL!"

set strLength [string length $myString]

puts "The length of the string is: $strLength"

set myList {apple banana cherry}

set listLength [llength $myList]

puts "The length of the list is: $listLength"

# Compare two strings

set string1 "hello"

set string2 "world"

if {$string1 eq $string2} {

puts "The strings are equal"

} else {

puts "The strings are different"

}

# Evaluate an expression conditionally using the ternary operator (?:)

set a 5

set b 10

set result [expr {$a < $b ? "a is less than b" : "a is not less than b"}]

puts $result