

# CSci 111 - Computer Science I

## Fall 2022

### Closed Lab 7

## Programming Activity

The international standard letter/number mapping found on the telephone is shown below:

1	2 ABC	3 DEF
4 GHI	5 JKL	6 MNO
7 PQRS	8 TUV	9 WXYZ
*	0 —	#

Write a program that continues to prompt the user (until the user quits) to enter a letter and displays its corresponding number (if the input is not a letter, display an error message, check the sample output on next page).

- Use a **while loop** to continue to prompt the user to enter a letter until he/she quits.
- How do you read a single character from the user?
- If the input is a letter, convert that letter into lowercase/uppercase, and then use **ONE** switch statement to determine its corresponding number, notice that three letters share the same number (e.g. A, B C correspond to number 2, etc).
- Do not forget to include **break;** at the end of each case.
- If you got an error message, saying that you need to initialize a certain variable, if that variable is an int, initialize it to 0 (e.g. int x = 0); if the variable is a double, initialize it to 0.0 (e.g. double x = 0.0); if the variable is a String, initialize it to an empty string (e.g. String x = "").
- You will need to use some methods in the Characters and Strings chapter to finish this lab, refer to the methods on your notes.

You can name your program **Keypad.java**

If you have an infinite loop, click in the Command window, press **Ctrl + C** to stop the execution.

When done, **raise your hand** to let the TA know that you are ready to demonstrate your code for grading.

```
// import statement(s), class header, and main method header

// declare variables for the inputs and outputs

// prompt for input

// process

// display the output
```

**Sample output on next page.**

### **Sample Output**

```
Do you want to enter a letter (enter yes or no)? yes
Enter a letter: h
The corresponding number is 4

Do you want to enter a letter (enter yes or no)? yes
Enter a letter: X
The corresponding number is 9

Do you want to enter a letter (enter yes or no)? yes
Enter a letter: +
+ is an invalid letter

Do you want to enter a letter (enter yes or no)? no
>>
```