KIT100 Programming Preparation

Tutorial Five – Week 6

Today's Flow

- Walk through Portfolio Tasks PP6.1
- Your time to work on Test 1 Sample
- One-on-one session with me
  - to help you to resolve the programming concerns from the previous weeks
  - check if they have questions for test 1 sample

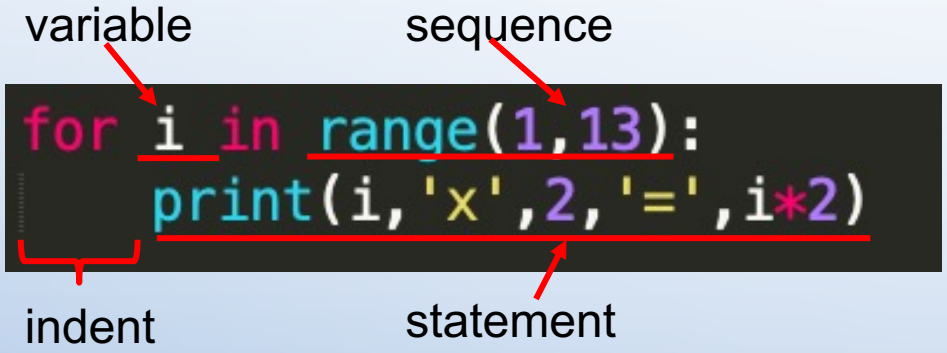
Test 1

- Don’t forget we will have Test 1 **next week** in MyLO.
- The style of this quiz will be very similar with the **Test 1 Sample**.
  → Therefore, try to spend time to complete the **Test 1 Sample** in MyLO.

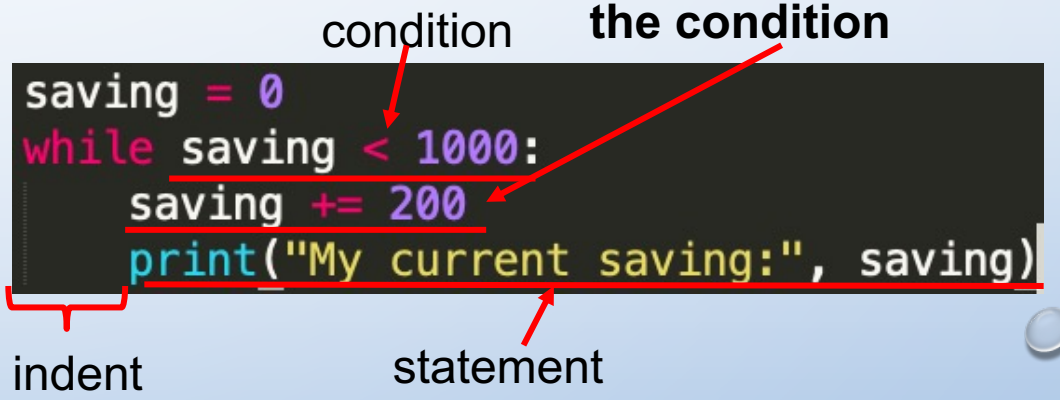
Repetitive Tasks

for loops executes a fixed number of times, and you know the number of times it will execute before the loop even begins.

while loops executes statements repeatedly as long as a **condition remains true**.



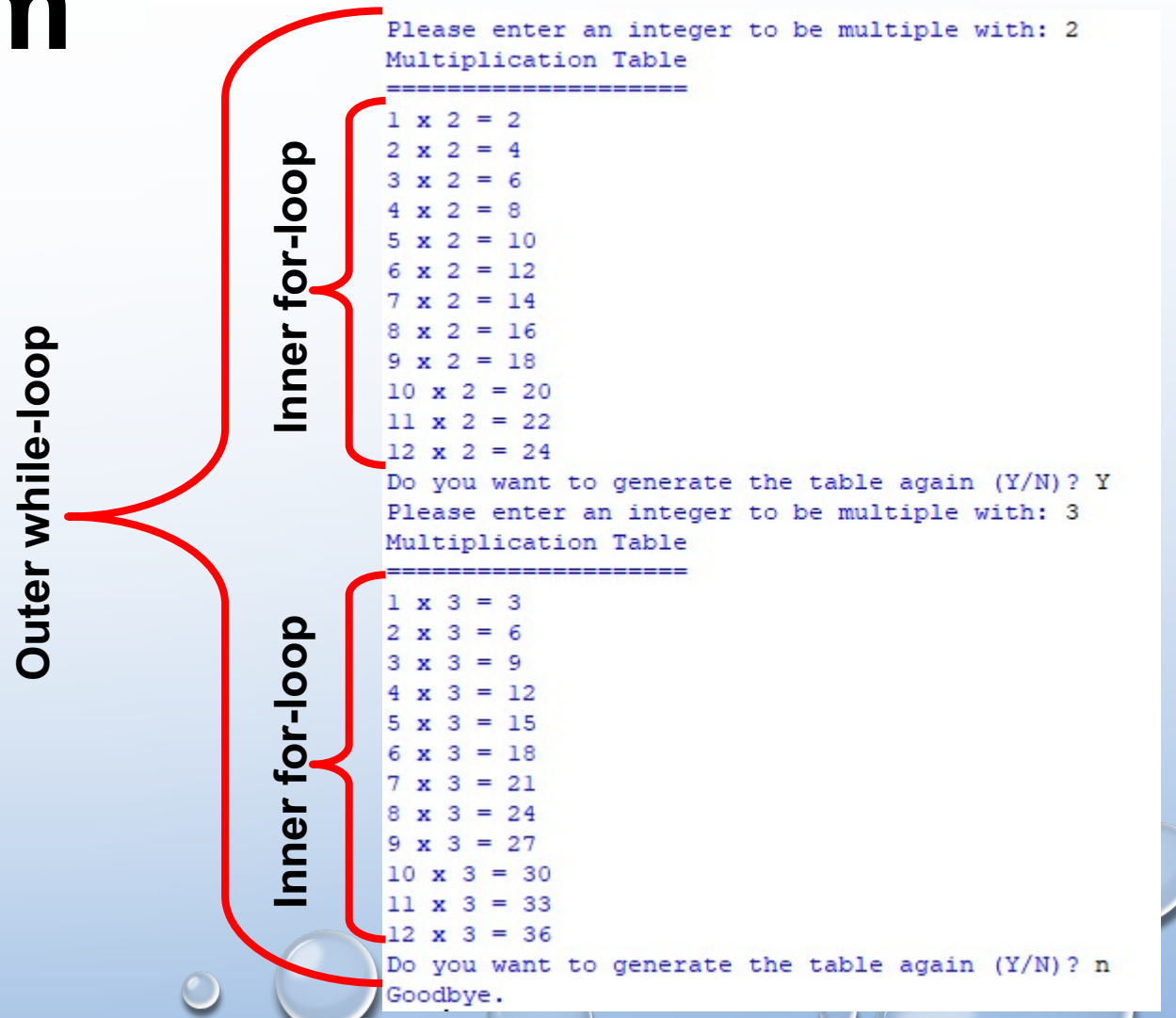
IMPORTANT:
Statement to change the condition



Plan your program

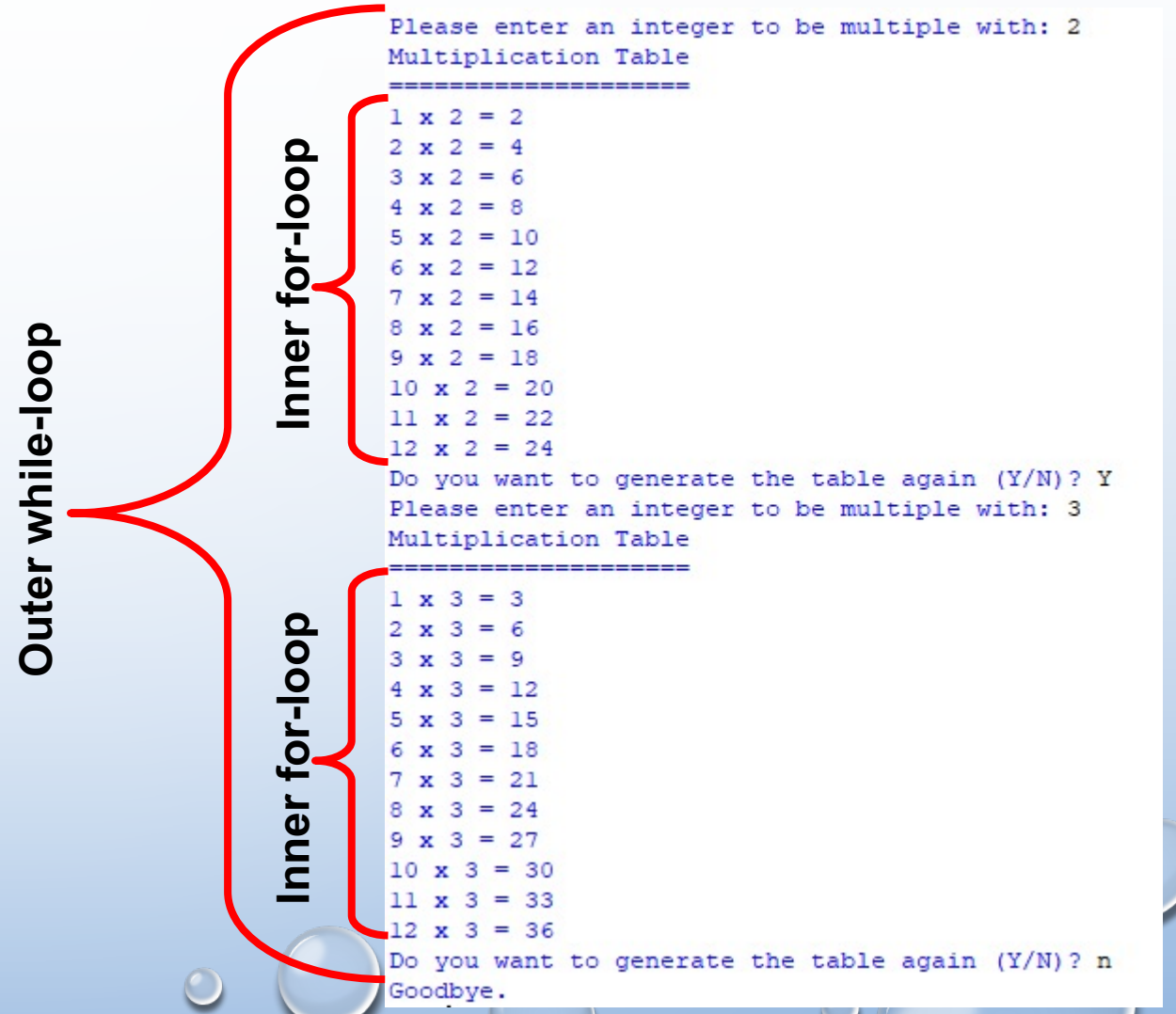
Example

- Write a program to print a program to print out multiplication table base on the integer input from user.
  The program will ask user to run the program again or not by checking the user input. “Y” to run again, “N” to quit the program.



Pseudo Code

1. Define a CONSTANT to indicate number of time to generate the table
2. While user's answer is "Y":
    1. Ask user to input the multiplication factor
    2. Loop from 1 to the CONSTANT:
        1. Print out n x factor = result
    3. Ask user want to repeat again or not
    4. Assign the user's answer to answer variable
3. Say Goodbye to user



Portfolio Task

- **6.1PP Loops (for and while)**

Description:

A local pharmacist needs a program that counts how many of the letters 'a','b' ,'c','d','e' and 'f' are in a string entered by the user in order to determine categories of medicines they need to order..

Task:

Write a program that asks the user for a string containing only the letters a,b,c,d,e and f (in any order, and repetition allowed). The program should count how many of each letter there are in the string and summarise the results. The program should then ask the use if they want to run the program again with a 'y' or 'n' answer.

Example output:

```
Enter the medicine codes (a,b,c,d,e and f): abbcccde
Here are the results:
There were  1  'a' codes
There were  2  'b' codes
There were  3  'c' codes
There were  1  'd' codes
There were  1  'e' codes
There were  0  'f' codes

Do you want to run this program again (y/n)? y

Enter the medicine codes (a,b,c,d,e and f): fbbeab
Here are the results:
There were  1  'a' codes
There were  3  'b' codes
There were  0  'c' codes
There were  0  'd' codes
There were  1  'e' codes
There were  1  'f' codes

Do you want to run this program again (y/n)? n

Goodbye
```

Hint

You will need to use a for loop and a while loop. Where the for loop is concerned, a string is actually a *sequence* of characters...