💻 Challenge Worksheet

Project: Math Quiz Tournament

Project Brief

You will design a **Math Quiz Tournament** in Python.

- The **user chooses** how many questions to try.
- For each question:
    - A math question is shown.
    - The user must keep guessing until they are correct.
    - If the user types **0**, that question ends immediately.
- At the end of the quiz, the program should show how many questions were answered correctly.

Starter Scaffold Code (fill in the blanks)

```
print("Welcome to the Math Quiz Tournament")

# Step 1: Ask how many questions
rounds = int(input("How many questions would you like to try? "))

score = 0

# Step 2: For loop to go through each question
for i in range(rounds):
    print("Question number " + str(i+1))

    # TODO: Write a maths question here (e.g. 3 + 4)
    # TODO: Set the correct_answer variable

    answer = -1

    # Step 3: While loop for repeated guesses
    while answer != correct_answer:
        answer = int(input("Your answer (or 0 to quit): "))

        # Step 4: Decisions with if / elif / else
        if answer == correct_answer:
            print("Correct!")
            score = score + 1
        elif answer == 0:
            print("Exiting this question")
            break
        else:
            print("Try again")
```

```
# Step 5: Summary
print("Tournament over")
print("Total questions: " + str(rounds))
print("Correct answers: " + str(score))
```

✅ Success Criteria

- Uses a **for loop** to run multiple questions.
- Uses a **while loop** so the user repeats until correct.
- Uses **if / elif / else** to handle correct, incorrect, and quit.
- Prints a **summary** of results at the end.

Reflection Questions

1. What part of the program uses a **for loop**, and why?
2. Why do we need a **while loop** for each question?
3. How does the **if / elif / else** give meaningful feedback?
4. If the user types `0` but there was no `elif answer == 0`, what would happen?

✅ Marking Rubric (24 Marks)

Criteria	Excellent (4)	Good (3)	Satisfactory (2)	Needs Improvement (1)
For Loop	Correctly controls number of questions	Mostly correct	Attempted but flawed	Absent
While Loop	Fully repeats until answer is correct	Works with small issues	Attempted but partly wrong	Missing
If/Elif/Else	Clear feedback for all cases	Most cases handled	Basic or limited feedback	Very limited/none
Summary Output	Complete and accurate	Includes most details	Partially shown	Missing
Code Clarity	Clear, indented, easy to follow	Mostly clear readable code	Understandable but messy	Very messy/unreadable
Reflection	Complete thoughtful answers	Mostly correct answers	Partial answers given	Little/no effort

Total: /24

Extensions

- Add extra questions (subtraction, multiplication).
- Count how many **attempts** it takes per question.
- Give extra points for correct **on the first try**.