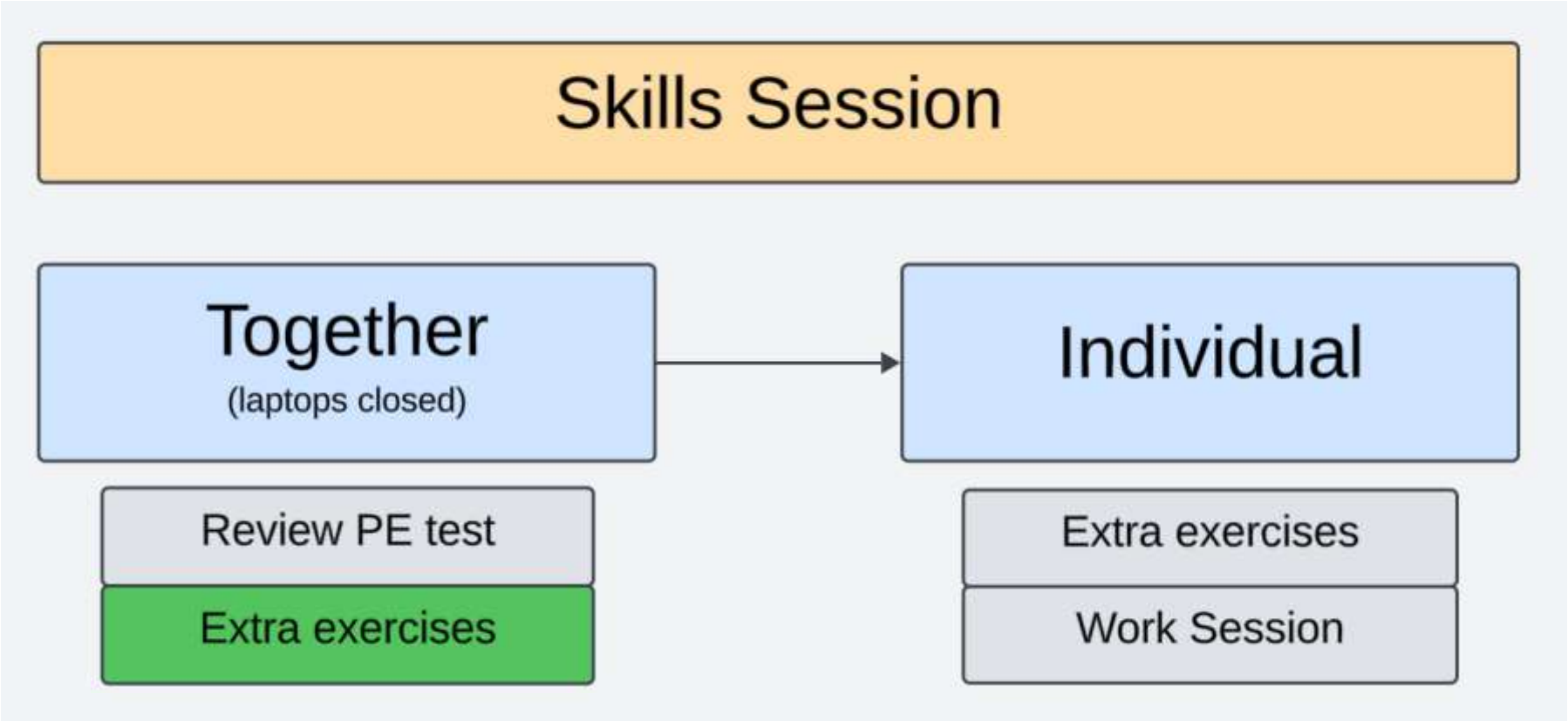
PROGRAMMING 1 - WEEK 3

Skills

Approach


Skills Session
Together
(laptops closed)
Individual
Review PE test
Extra exercises
Extra exercises
Work Session

Structured Payment Reference

A structured payment reference is a unique 12-digit code added to payments, allowing them to be automatically linked to the correct invoice. The format is +++ xxx/xxxx/xxxxx +++, with the last two digits being a check digit, calculated from the first 10 digits. Entering this reference correctly (including "+++" and "/") ensures error-free and efficient processing of the payment.

We will write a program to create a valid structured payment reference based on a given invoice number.

Invoice number: 2023-0001
Invoice date: 31 January 2023
Delivery date: 31 January 2023
Due date: 2 March 2023
Structured communication: +++002/0230/00169+++

Part 1

Write a function **control_digit(number)** that returns the control digit of **number**. The parameter **number** is a positive integer. To determine the control digit for this number, we calculate the remainder when dividing the number by 97. If the remainder is 0, the control digit is set to 97.

Example:

- *number = 123456789*
- *control_digit(number) = 39*

Part 2

Write a function **make_10_digits(number).** The parameter **number** contains a positive integer with at most 10 digits.
The return value of this function should be a text value of exactly 10 characters containing the input number with leading zero's when necessary.

Example:

- *number = 123456789*
- *make_10_digits(number)= "0123456789"*

Part 3

Write a function **add_control_digit(text).** The parameter **text** contains a 10-digit positive integer as a text value.
The return value of this function should be a text value of 12 characters that combines the input value **text** with the control number calculated in part 1.

Example:

- *text = “0123456789”*
- *add_control_digit(text) = “012345678939”*

Part 4

Write a function **add_symbols(text)** that returns a formatted text value based on the following structure:

- The resulting string should start with '+++', followed by the first 3 characters of the input text.
- Then, append a '/', followed by the next 4 characters of the input text.
- Add another '/', followed by the last 5 characters of the input text.
- Finally, end the string with '+++'.

Example:

- *text = "012345678939"*
- *add_symbols(text) = "+++012/3456/78939+++"*

Part 5

Write a function **create_reference(number)** that returns a structured payment reference based on the given number.

Example:

- *number = 123456789*
- *create_payment_reference(number) = “+++012/3456/78939+++”*