Questions (Theory) - Day4 - Java .txt - 06.05.23

① In Java, break and continue are two keywords
used in loops, Such as 'for', 'while' and
do-while to control the flow of the loop.

break: when executed within a loop, the break
Statement immedietly terminates the loop and
resumes execution at the Statement following
the loop. it is typically used when you want to
exit a loop prematurely based on some condition.

continue: when executed within a loop, the continue
Statement Skips the current iteration of the
loop based on some condition.

② No, the continue statement cannot be
used in Switch statements. because
Switch is ~~control~~ based not iteration
based iteration

③ control statements are used to control the flow of execution of program they allow the program to make decisions and repeat a set of instruction multiple times.

Types:

* selection statements: These statements allow the program to make decisions based on condition
        if, if-else, if-else if ladder, nested if-else, switch statements - these are selection statements.

* Iteration statements - These statements allow the program to repeat a set of instructions multiple times based on a condition
        while, do...while and for. for each these are iteration statements in java.

* jump statements: These statements allow the program to transfer control to another part of the program. there are three jump statements in java.
        break, continue and return.

④ for loop:- for loop is a control statement that allows you to execute a block of code repeatedly a specific number of times. the for loop is useful when you know the number of times you want to execute a block of code. or when you want to iterate over a collection of elements.

Syntax:
        for (initialization; condition; increment/
                decrement)
        {

        }

⑤ Say example 'for loop':
(i) first initialization code is executed.

(ii) Next, the condition is evaluated, if the condition is true the code within the loop is executed. if it is false, the loop terminates and control passed to the next statement.

(iii) if it is still true state, the loop code is executed again. This process continues until the condition becomes false.

⑥. while loop condition is evaluated at the beginning of each iteration of the loop. if the condition is false, the loop not executed at all.

do..while loop condition is evaluated at the end of each iteration of the loop. This means that the loop code is guaranteed to execute atleast once, even if the condition is false.

⑦ The 'default' keyword is switch statement is used to provide a default case, which is executed if none of the other cases matches the input value.

⑧ for loop is a compact version of a loop that initializes the loop variable checks the condition, and updates the loop variable in a single line of code. It is typically used when you know the exact number of iterations that are required.

<u>while</u> loop is used when you don't know the exact number of iterations required or when you want to iterate until a certain condition is met.