Loops

for Loop

(i) Repeats Code a know number of time.

(ii) Has three parts : initialization, condition, and update.

Syntax :

```
for (initialization ; condition ; update) {
    // repeated code
}
```

While Loop

(i) Repeats code while a condition is true.

(ii) Used when you don't know how many times it will repeat.

Syntax :

```
while (condition) {
    // repeated code
}
```

do-while Loop

(i) Similar to while, but always runs the code at least once.

(ii) The condition is checked after running the code block.

Syntax :

```
do {
    // code
} while (condition);
```

Loop Control : break & continue

• break — Exits the current loop or switch immediately.

Exists a switch case block.

4. Nested Loop

→ A nested loop is a loop inside another loop. It means the inner loop will run completely every time the outer loop runs once.

used when you need to repeat a set of statements in a multi-dimensional way (like row and columns).

• ⊛ Syntax

→ ① Nested for

```
for (initialization; condition; update){ // outer loop
    for (initialization; condition; update){ // Inner loop
        //code to execute
    }
}
```

② Nested while

```
while (condition1){
    while (condition2){
        // code to execute
    }
}
```

(iii) Nested do-while

```
do {
    do {
        // code to execute
    } while (condition2);
} while (condition1);
```