

Day 3 ASSESSMENT

Name:

1. What is the key requirement for a `while` loop to terminate?

- 1. The loop body must be empty
- 2. Loop must contain a break statement
- ☒ 3. Condition must become false eventually
- 4. Counter must reach 100

2. What type of problems are best suited for `for` loops?

- 1. Unknown iteration count
- ☒ 3. Known sequence or range
- 2. Infinite loops
- 4. Recursive functions

3. Guess the output:

```
int n = 3;
while (n > 0) {
    System.out.print(n);
    n --;
}
```

☒ 1. 321

3. Error

2. 123

4. Infinite Loop

4. Which statement will immediately stop the execution of a loop?

- 1. return
- ☒ 2. break
- 3. continue
- 4. stop

5. What does the following code do?

```
for (int i = 0; i < 5; i++) {
    if (i == 2) continue;
    System.out.print(i);
}
```

☒ 1. 01234

3. 0134

2. 0123

4. 014

6. Which loop is best for input validation until a valid value is entered?

- 1. for loop
- ☒ 2. while loop
- 3. do-while loop
- 4. foreach loop

7. Guess the output:

```
for (int i = 1; i <= 3; i++) {
    for (int j = 1; j <= 2; j++) {
        System.out.print(i + "," + j + " ");
    }
}
```

☒ 1. 1,1,2,2,1,2,2,3,1,3,2

3. Error

2. 123456

4. ijijlj

8. Which loop type ensures the loop body runs at least once?

1. while

~~3. for~~

2. do-while

4. None

9. Debug the code: What is missing?

```
int i = 0;
while (i < 3) {
    System.out.println(i);
}
```

1. Initialization

~~3. Update statement~~

2. Condition

4. Curly braces

10. What is the output?

```
for (int i = 1; i <= 5; i++) {
    System.out.print(i * 2 + " ");
}
```

~~1. 2 4 6 8 10~~

3. 10 8 6 4 2

2. 1 2 3 4 5

4. Error

11. Which of the following avoids code duplication best when printing something multiple times?

1. if statement

~~3. loop~~

2. recursion

4. switch case

12. What does this print?

```
for (int i = 5; i >= 1; i--) {
    System.out.print(i + " ");
}
```

1. 1 2 3 4 5

3. 0 1 2 3 4

~~2. 5 4 3 2 1~~

4. Infinite Loop

13. Which loop would you use to sum numbers until the user enters 0?

1. for

3. do-while

~~2. while~~

4. if

14. Find the output:

```
String str = "loop";
for (int i = 0; i < str.length(); i++) {
    System.out.print(str.charAt(i));
}
```

~~1. loop~~

3. loop

2. looploop

4. pool

15. What is true about nested loops?

- 1. They cannot be used in Java
- 2. One loop inside another
- 3. Only for infinite loops
- 4. Used only for recursion

16. How many times will the following loop run?

```
int i = 0;
do {
  i ++;
} while (i < 5);
```

- 1. 4
- 2. 5
- 3. 6
- 4. 0

17. Debug this: What's the issue?

```
for (int i = 1; i <= 5;) {
  System.out.println(i);
}
```

- 1. Condition missing
- 2. Update missing
- 3. Initialization missing
- 4. All missing

18. Guess the output:

```
for (int i = 0; i < 3; i++) {
  for (int j = 0; j < 2; j++) {
    System.out.print("*");
  }
  System.out.println();
}
```

1. ****

3. ****

2. **
**
**

4. Error

19. Which loop is preferable for pattern printing (like triangle, pyramid)?

- 1. while
- 2. do-while
- 3. for
- 4. switch

20. What is an off-by-one error?

- 1. Not declaring loop variable
- 2. Loop runs 1 extra/less time
- 3. Forgetting break
- 4. Infinite recursion

21. What is printed?

```
for (int i = 1; i <= 3; i++) {
  System.out.print(i*i + " ");
}
```

- 1. 123
- 2. 149
- 3. 1827
- 4. 136

22. Guess the output:

```
int i = 1;
while (i < 3) {
    System.out.print(i);
    i++;
}
```

1. 123

3. Error

~~2. 12~~

4. Infinite loop

23. What does `continue` do inside a loop?

1. Exit loop

~~3. Pause loop~~

2. Go to end of loop and start next iteration

4. Restart loop

24. Which keyword stops a loop immediately?

1. continue

3. return

~~2. break~~

4. exit

25. Which of the following loops is most likely to result in an infinite loop if not updated correctly?

1. for

3. do-while

~~2. while~~

4. switch

26. A and B invest Rs. 5000 and Rs. 3000 respectively in a business. What is their profit ratio?

~~1. 5:3~~

3. 10:3

2. 3:5

4. 3:8

27. If $a:b = 2:3$ and $b:c = 4:5$, then $a:c = ?$

~~1. 8:15~~

3. 3:5

2. 2:5

4. 4:5

28. Three partners A, B, and C share profit in ratio 2:3:5. If the total profit is Rs. 1000, what is B's share?

1. Rs. 200

3. Rs. 500

~~2. Rs. 300~~

4. Rs. 100

29. If x is directly proportional to y and $x = 10$ when $y = 5$, then $x = ?$ when $y = 15$

1. 20

3. 15

~~2. 30~~

4. 5

30. A and B enter a partnership. A invests Rs. 8000 for 12 months, B invests Rs. 12000 for 6 months. Ratio of profit is:

1. 2:3

3. 1:1

~~2. 4:3~~

4. 1:2