

Sample java questions for quizzes 9

```
1. int x = scanner.nextInt();
   if (x > 10) {
       x -= 5;
       if (x % 2 == 0) {
           if (x == 8) {
               System.out.println("Special Case");
           } else {
               System.out.println("Even");
           }
       } else {
           System.out.println("Odd");
       }
   } else {
       if (x < 5) {
           x *= 2;
           System.out.println("Small Value");
       } else {
           x += 3;
           System.out.println("Medium Value");
       }
   }
   System.out.println("Final Value: " + x);
```

Question: What will the program print for inputs:

- a) 11
- b) 3
- c) 8

```
2. int marks = scanner.nextInt();
   if (marks >= 90) {
       System.out.println("A Grade");
       if (marks >= 95) {
           System.out.println("Excellent Performance");
       }
   } else if (marks >= 70) {
       if (marks >= 80) {
           System.out.println("B+ Grade");
       } else {
           System.out.println("B Grade");
       }
   } else {
       if (marks >= 50) {
           System.out.println("C Grade");
       } else {
           if (marks >= 40) {
```

```

        System.out.println("D Grade");
    } else {
        System.out.println("Fail");
    }
}
}

```

Question: What will the program print for inputs:

- a) 92
- b) 75
- c) 45

```

3. int age = scanner.nextInt();
   if (age < 18) {
       if (age <= 12) {
           System.out.println("Child");
       } else {
           System.out.println("Teenager");
       }
   } else {
       if (age <= 60) {
           System.out.println("Adult");
           if (age >= 40) {
               System.out.println("Middle-aged");
           }
       } else {
           System.out.println("Senior Citizen");
       }
   }
}

```

Question: What will the program print for inputs:

- a) 10
- b) 45
- c) 70

```

4. int salary = scanner.nextInt();
   if (salary >= 5000) {
       if (salary >= 10000) {
           System.out.println("High Salary");
       } else {
           if (salary >= 7000) {
               System.out.println("Above Average Salary");
           } else {
               System.out.println("Average Salary");
           }
       }
   }
}

```

```

    } else {
        if (salary >= 3000) {
            System.out.println("Low Salary");
        } else {
            System.out.println("Very Low Salary");
        }
    }
}

```

Question: What will the program print for inputs:

- a) 3000
- b) 12000

```

5. double purchase = scanner.nextDouble();
   if (purchase > 100) {
       if (purchase > 500) {
           System.out.println("20% Discount");
       } else {
           if (purchase > 300) {
               System.out.println("15% Discount");
           } else {
               System.out.println("10% Discount");
           }
       }
   } else {
       System.out.println("No Discount");
   }
}

```

Question: What will the program print for inputs:

- a) 600
- b) 150

```

6. int a = scanner.nextInt();
   int b = scanner.nextInt();
   int c = scanner.nextInt();
   if (a + b > c) {
       if (b + c > a) {
           if (a + c > b) {
               System.out.println("Valid Triangle");
           } else {
               System.out.println("Invalid Triangle");
           }
       } else {
           System.out.println("Invalid Triangle");
       }
   } else {
       System.out.println("Invalid Triangle");
   }
}

```

Question: What will the program print for inputs:

a) 3, 4, 5

b) 1, 1, 3

```
7. int num = scanner.nextInt();
   if (num % 2 == 0) {
       if (num % 4 == 0) {
           System.out.println("Divisible by 4");
       } else {
           System.out.println("Divisible by 2 but not 4");
       }
   } else {
       if (num % 3 == 0) {
           System.out.println("Divisible by 3");
       } else {
           System.out.println("Not Divisible by 2 or 3");
       }
   }
}
```

Question: What will the program print for inputs:

a) 8

b) 7

```
8. boolean a = scanner.nextBoolean();
   boolean b = scanner.nextBoolean();
   if (a) {
       if (b) {
           System.out.println("Both are true");
       } else {
           System.out.println("Only A is true");
       }
   } else {
       if (b) {
           System.out.println("Only B is true");
       } else {
           System.out.println("Both are false");
       }
   }
}
```

Question: What will the program print for inputs:

a) true, false

b) false, false

```
9. int score = scanner.nextInt();
   if (score > 90) {
```

```

    if (score > 95) {
        System.out.println("Outstanding");
    } else {
        System.out.println("Excellent");
    }
} else if (score >= 70) {
    if (score > 80) {
        System.out.println("Very Good");
    } else {
        System.out.println("Good");
    }
} else {
    System.out.println("Needs Improvement");
}

```

Question: What will the program print for inputs:

a) 96

b) 75

```

10. int year = scanner.nextInt();
    if (year % 4 == 0) {
        if (year % 100 == 0) {
            if (year % 400 == 0) {
                System.out.println("Leap Year");
            } else {
                System.out.println("Not a Leap Year");
            }
        } else {
            System.out.println("Leap Year");
        }
    } else {
        System.out.println("Not a Leap Year");
    }
}

```

Question: What will the program print for inputs:

a) 2000

b) 1900

```

11. int a = scanner.nextInt();
    int b = scanner.nextInt();
    int c = scanner.nextInt();

    if (a > b) {
        if (a > c) {
            System.out.println("A is the largest");
        } else if (a == c) {

```

```

        System.out.println("A and C are the largest");
    } else {
        System.out.println("C is the largest");
    }
} else {
    if (b > c) {
        System.out.println("B is the largest");
    } else if (b == c) {
        System.out.println("B and C are the largest");
    } else {
        System.out.println("C is the largest");
    }
}
}

```

Question: Determine the output for inputs:

a) 10, 20, 15

b) 5, 5, 10

12. `int x = scanner.nextInt();`
`int y = scanner.nextInt();`

```

if (x > 0) {
    if (y > 0) {
        System.out.println("Quadrant I");
    } else if (y < 0) {
        System.out.println("Quadrant IV");
    } else {
        System.out.println("On the positive X-axis");
    }
} else if (x < 0) {
    if (y > 0) {
        System.out.println("Quadrant II");
    } else if (y < 0) {
        System.out.println("Quadrant III");
    } else {
        System.out.println("On the negative X-axis");
    }
} else {
    if (y == 0) {
        System.out.println("Origin");
    } else {
        System.out.println("On the Y-axis");
    }
}
}

```

Question: What will the program output for inputs:

a) 3, 4

b) -3, 0

13. `double stockPrice = scanner.nextDouble();`

```
if (stockPrice > 500) {  
    if (stockPrice > 1000) {  
        System.out.println("Very Expensive Stock");  
    } else if (stockPrice > 750) {  
        System.out.println("Expensive Stock");  
    } else {  
        System.out.println("Moderately Expensive Stock");  
    }  
} else {  
    if (stockPrice > 300) {  
        System.out.println("Affordable Stock");  
    } else if (stockPrice > 100) {  
        System.out.println("Cheap Stock");  
    } else {  
        System.out.println("Very Cheap Stock");  
    }  
}
```

Question: Determine the output for inputs:

a) 1200

b) 450

14. `int score = scanner.nextInt();`
`int attendance = scanner.nextInt();`

```
if (attendance >= 75) {  
    if (score >= 90) {  
        System.out.println("Grade A");  
    } else if (score >= 70) {  
        System.out.println("Grade B");  
    } else {  
        System.out.println("Grade C");  
    }  
} else {  
    if (attendance >= 50) {  
        if (score >= 70) {  
            System.out.println("Grade D");  
        } else {  
            System.out.println("Grade F");  
        }  
    } else {  
        System.out.println("Fail due to low attendance");  
    }  
}
```

```
}  
}
```

Question: What will the program output for inputs:

- a) 80, 80
- b) 65, 40

15. `int num = scanner.nextInt();`

```
if (num > 1) {  
    boolean isPrime = true;  
    if (num % 2 == 0 && num != 2) {  
        isPrime = false;  
    } else {  
        for (int i = 3; i <= Math.sqrt(num); i += 2) {  
            if (num % i == 0) {  
                isPrime = false;  
                break;  
            }  
        }  
    }  
    if (isPrime) {  
        System.out.println("Prime Number");  
    } else {  
        System.out.println("Composite Number");  
    }  
} else {  
    if (num == 1) {  
        System.out.println("Neither Prime nor Composite");  
    } else {  
        System.out.println("Invalid Input");  
    }  
}
```

Question: Test the program for inputs:

- a) 13
- b) 1

16. `String username = scanner.next();`
`String password = scanner.next();`

```
if (username.equals("admin")) {  
    if (password.equals("1234")) {  
        System.out.println("Login Successful");  
    } else {
```



```

        System.out.println("Incorrect Password");
    }
} else {
    if (username.equals("user")) {
        System.out.println("User account detected");
    } else {
        System.out.println("Unknown Account");
    }
}
}

```

Question: What will the program print for inputs:

- a) "admin", "1234"
- b) "guest", "0000"

```

17. double gpa = scanner.nextDouble();
    int familyIncome = scanner.nextInt();

    if (gpa > 3.5) {
        if (familyIncome < 50000) {
            System.out.println("Full Scholarship");
        } else if (familyIncome < 100000) {
            System.out.println("Partial Scholarship");
        } else {
            System.out.println("No Scholarship");
        }
    } else {
        if (gpa > 3.0) {
            System.out.println("Eligible for Academic Grant");
        } else {
            System.out.println("Not Eligible for Scholarship");
        }
    }
}

```

Question: Determine the output for inputs:

- a) 3.8, 45000
- b) 3.2, 80000

```

18. int temp = scanner.nextInt();
    int humidity = scanner.nextInt();

    if (temp > 30) {
        if (humidity > 70) {
            System.out.println("Hot and Humid");
        } else {
            System.out.println("Hot and Dry");
        }
    }
}

```

```

    }
} else if (temp > 20) {
    if (humidity > 50) {
        System.out.println("Warm and Comfortable");
    } else {
        System.out.println("Cool and Dry");
    }
} else {
    System.out.println("Cold Weather");
}

```

Question: What will the program output for inputs:

- a) 35, 80
- b) 25, 40

19. `boolean passwordCorrect = scanner.nextBoolean();`
`boolean otpCorrect = scanner.nextBoolean();`

```

if (passwordCorrect) {
    if (otpCorrect) {
        System.out.println("Authentication Successful");
    } else {
        System.out.println("Incorrect OTP");
    }
} else {
    System.out.println("Incorrect Password");
}

```

Question: What will the program print for inputs:

- a) true, true
- b) true, false

20. `double billAmount = scanner.nextDouble();`
`int loyaltyYears = scanner.nextInt();`

```

if (billAmount > 1000) {
    if (loyaltyYears > 5) {
        System.out.println("20% Discount");
    } else if (loyaltyYears > 2) {
        System.out.println("15% Discount");
    } else {
        System.out.println("10% Discount");
    }
} else {
    if (billAmount > 500) {
        System.out.println("5% Discount");
    }
}

```

```

    } else {
        System.out.println("No Discount");
    }
}

```

Question: What will the program output for inputs:

a) 1500, 3

b) 400, 1

21-25: Boolean Expression Evaluations

Given:

boolean b1 = true, b2 = false;

int x = 5, y = 15, z = 10;

Evaluate:

21. $x > 0 \ \&\& \ y \leq 20$
22. $!(x < y) \ || \ z == 10$
23. $b1 \ || \ b2 \ \&\& \ x + z > y$
24. $!b1 \ \&\& \ (y - x \geq z)$
25. $b2 \ || \ (x * z != y * 3) \ \&\& \ b1$

26-30: Complex Nested Conditions

Given:

boolean isHot = false, isCold = true;

int temperature = 25, humidity = 60;

Evaluate:

26. $isHot \ \&\& \ temperature > 30$
27. $!(isCold \ || \ temperature < 20)$
28. $humidity > 50 \ \&\& \ isHot \ || \ isCold \ \&\& \ !(temperature < 15)$
29. $!(isHot \ \&\& \ temperature > 30) \ || \ humidity < 70$
30. $(isCold \ || \ temperature < 20) \ \&\& \ !isHot$

31-35: Multi-variable Boolean Evaluations

Given:

boolean a = true, b = false, c = true;

int p = 8, q = 16, r = 24;

Evaluate:

- 31. $a \ \&\& \ b \ \parallel \ c \ \&\& \ p + q == r$
- 32. $!(a \ \&\& \ !b) \ \&\& \ (p * r \geq q * r)$
- 33. $p < q \ \&\& \ q < r \ \&\& \ !(r - p < q)$
- 34. $!(c \ \parallel \ b) \ \&\& \ p * 3 == r \ \&\& \ a$
- 35. $a \ \parallel \ (b \ \&\& \ !c) \ \&\& \ !(q > r)$

36-40: Real-world Boolean Scenarios

Given:

```
boolean loggedIn = true, hasPermissions = false;  
int balance = 500, threshold = 1000;
```

Evaluate:

- 36. $\text{loggedIn} \ \&\& \ \text{balance} \geq \text{threshold}$
- 37. $!(\text{loggedIn} \ \parallel \ \text{hasPermissions}) \ \&\& \ \text{balance} < \text{threshold}$
- 38. $\text{loggedIn} \ \&\& \ (!\text{hasPermissions} \ \parallel \ \text{balance} \geq \text{threshold} / 2)$
- 39. $!(\text{balance} > \text{threshold} \ \&\& \ \text{loggedIn}) \ \parallel \ \text{hasPermissions}$
- 40. $\text{loggedIn} \ \&\& \ !\text{hasPermissions} \ \&\& \ \text{balance} < \text{threshold}$