

## Greater than 100 or not

Problem

Submissions

Leaderboard

Discussions

You will be given an integer as input, you have to print true if the number is greater than 100, and false otherwise.

Test Case 1:

Input: 110 ✓ → user       $x \rightarrow \text{input}$

Output: true

$x > 100 \rightarrow \text{true}$

$\text{else} \rightarrow \text{false}$

Explanation: Since the given input is greater than 100, we printed true.

Scanner input  
int  $x \rightarrow \text{input}$   
boolean result =  $x > 100$ ;  
print (result)

```
public static void main(String[] args) {  
    /* Enter your code here. Read input from  
    Scanner scn = new Scanner(System.in); ✓  
    int x = scn.nextInt(); ✓  
    System.out.println(x > 100);
```

Output

false

Output

true

Memory

$99_{101}$

$x$

# HW\_Sum is less than 150 or not.

Problem

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You will be given three integer inputs  $x, y, z$ . You have to find the sum of these inputs. Print true if the sum is less than 150 and false otherwise.

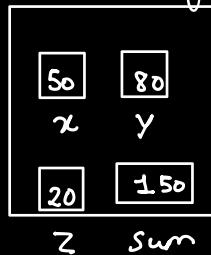
## Input Format

For each test case, In the first line, you will be given the value of  $x$ . In the second line, you will be given the value of  $y$ . In the third line, you will be given the value of  $z$ .

## Scanner

```
int x = input; 37  
y } input 73 → 135  
z 25  
  
int sum = x + y + z;  
print (sum < 150); → true
```

## Memory



```
/* Enter your code here. Read input from Scanner */  
Scanner scn = new Scanner(System.in);  
int x = scn.nextInt();  
int y = scn.nextInt();  
int z = scn.nextInt();  
  
int sum = x + y + z; 150 < 150 → false  
System.out.println(sum < 150); → false
```

# XYZW

## Scanner

Problem

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You will be given four integer inputs  $x, y, z, w$ . Print true if  $x * y$  is equal to  $z * w$  and false otherwise.

## Input Format

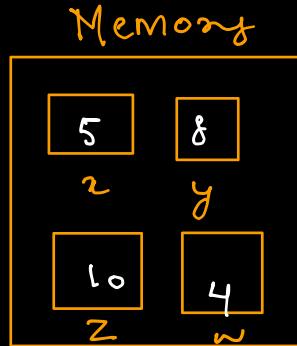
For each test-case In the first you will get  $x$  as integer input. In the second you will get  $y$  as integer input. In the third you will get  $z$  as integer input. In the fourth you will get  $w$  as integer input.

$x, y, z, w \rightarrow \text{input}$

$\text{print}(x * y == (z * w));$

$$(a == b) \rightarrow \text{true} / \text{false}$$

```
/* Enter your code here. Read input from  
Scanner scn = new Scanner(System.in);  
int x = scn.nextInt(); 5  
int y = scn.nextInt(); 8  
int z = scn.nextInt(); 10  
int w = scn.nextInt(); 4  
System.out.println((x*y) == (z*w)); → true
```



# Even or not

Problem Submissions Leaderboard Discussions

#### **Input Format**

#### **Input Format**

For each test case, you will be given an integer input.

int x → input

$x = 39 \rightarrow$  even / odd

→ true  
false

$x = 36 \rightarrow$  even

$\begin{array}{r} 19 \\ 39 \\ 2 \downarrow \\ 19 \\ 18 \end{array}$

$\begin{array}{r} 18 \\ 36 \\ 2 \downarrow \\ 16 \\ 16 \\ 0 \end{array} \rightarrow$  even

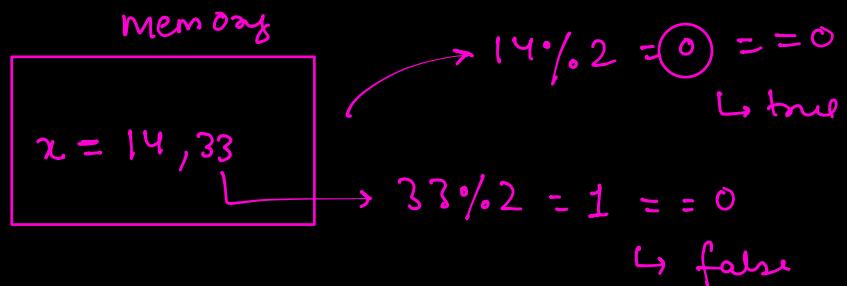
$\boxed{1} \rightarrow$  odd

$\checkmark x \% 2 == 0 \rightarrow$  even  
 $x \% 2 != 0 \rightarrow$  odd  $\rightarrow (x \% 2 == 1)$   
 comparison  
 point  $(x \% 2 == 0) \leftarrow$  true  
 $\leftarrow$  false

```

public static void main(String[] args) {
    /* Enter your code here. Read input from System.in */
    Scanner scn = new Scanner(System.in);
    int x = scn.nextInt();
    System.out.println(x%2 == 0);

```

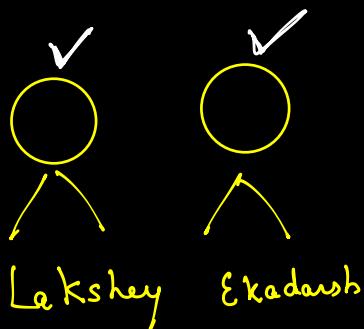


## # Logical Operators.

- And Operator → `&&`
- OR Operator → `||`
- Not Operator → `!`

# And Operator → Cond<sup>1</sup> && Cond<sup>2</sup>

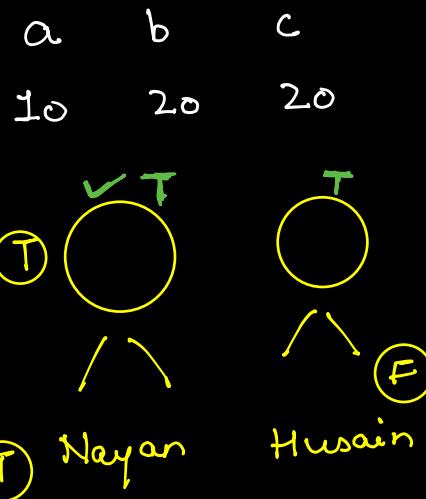
Cond <sup>1</sup>	Cond <sup>2</sup>	Result
T ✓	T ✓	T ✓
T ✓	F ✓	F
F ✓	T ✓	F
F ✓	F ✓	F



```

a = 10, b = 20, c = 20
condition1: ✓ a < b → 10 < 20 → T
condition2: ✓ b == c → 20 == 20 → T
if(condition1 && condition2)
d = a+b+c → 10 + 20 + 20 = 50
// Since both the conditions are true
d = 50. ✓ → print

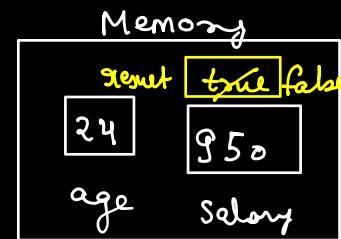
```



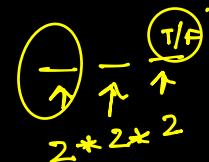
```

public static void main(String[] args) {
    int age = 24; ✓
    int salary = 950; ✓
    boolean result; ✓
    result = (age >= 18 && salary > 600);
    System.out.println(result); // true ✓
    result = (age >= 18 && salary > 1000);
    System.out.println(result); // false ✓

```



Cond <sup>1</sup>	Cond <sup>2</sup>	Cond <sup>3</sup>	Result
T ✓	T ✓	T ✓	T
T	T	F ✓	F
T	F ✓	T	F
T	F	F	F
F ✓	T	T	F
F	T	F	F
F	F	T	F
F	F	F	F



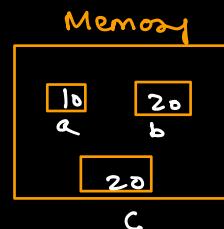
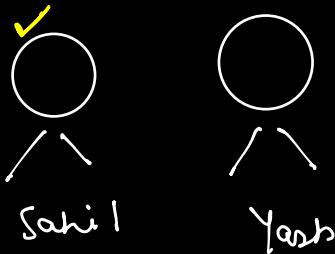
~~OR Operator~~  $\text{“||”} \Rightarrow \text{Cond}^1 \text{ || cond}^2$

cond <sup>1</sup>	cond <sup>2</sup>	Result
T ✓	T ✓	T
T ✓	F	T
F	T ✓	T
F ✓	F ✓	F

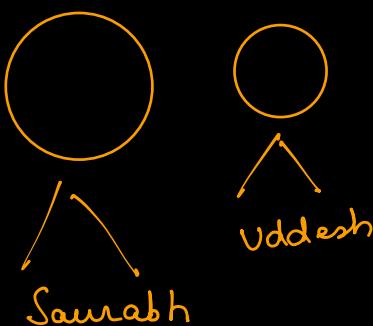
a = 10, b = 20, c = 20

condition1: a < b → sahil → True  
 condition2: b > c → yash → False  
 if(condition1 || condition2)  
 d = a+b+c

// Since one of the condition is true  
 d = 50. ✓



```
public static void main(String[] args) {
    int age = 24; ✓
    int salary = 950; ✓
    boolean result;
    result = (age >= 18 || salary > 1000);
    System.out.println(result); // true
    result = (age >= 30 || salary > 1000);
    System.out.println(result); // false
}
```



# Not Operator  $!(\text{cond})$

cond	Result
T	F
F	T

```
public static void main(String[] args) {  
    int a = 24;  
    boolean result = !(a == 23);  
    System.out.println(result); // true
```

# Challenges

Boolean ans =  $\rightarrow \text{true}$

$3 > 2 \&& 14 > 3$

↓      ↓  
true    true

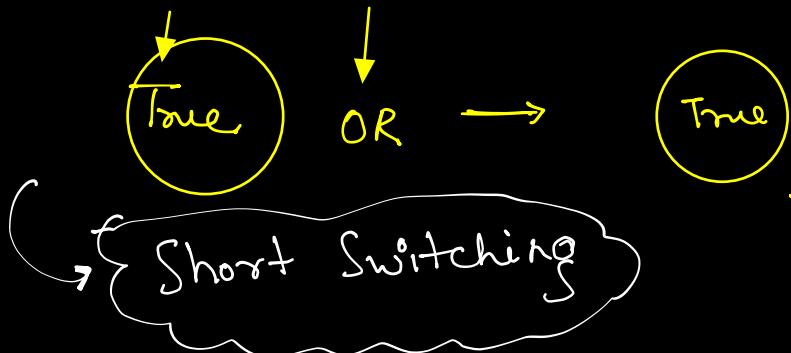
Boolean ans =  $\rightarrow \text{False}$

$40 > 3 \&& 40 > 50$

↓      ↓  
true    false

**Boolean ans =**

$$40 \geq 40 \quad \text{||} \quad 50 \geq 2 * 25$$



**Boolean ans =**

$$(2 \times 3 == 4) \quad \text{&&} \quad (6 \times 4 == 9) \quad \text{||} \quad (4 > 2)$$

↓  
false

↓ skip  
false

↓ true  
true

Short Switching

- Statement 1  $\rightarrow$  false and we have OR oper.  
final result will be true
- Statement  $\rightarrow$  False and we have && oper.  
final result will be false

Boolean ans =  
 $(4 > 5) \&\& (3 > 5 \&\& 80 == 2 \times 40)$

$\downarrow$   
 False      T/F       $\rightarrow$  False

false  $\&\&$  T/F  $\rightarrow$  false

Boolean ans = T  
 $(20 \times 5 == 100 \mid\mid 10 == 10) \&\&$   
 $(30 \times 2 == 60 \mid\mid 40 > 30)$

$\circlearrowleft$  T       $\&\&$   $\circlearrowleft$  T  $\rightarrow$  T

Boolean ans = !(30 > 20)

T

! T = False

Boolean ans = !(30 == 30)  $\rightarrow$  false

T

**Boolean ans =**

$$\textcircled{!} \textcircled{(30>=20)} \textcircled{\text{||}} \textcircled{40>=10}$$

True

→ false

False

**Boolean ans =**

$$\textcircled{!} \textcircled{(20\times 4+40>=100)} \textcircled{\text{||}} \textcircled{(20==10)} \textcircled{\&\&} \\ \textcircled{(3\times 2<=60 \textcircled{\text{||}} 4>=30)}$$

False

**Boolean ans =**

$$\textcircled{!} \textcircled{(20\%3==2)}$$

$$3 \sqrt[6]{20} \\ 18 \\ \textcircled{2}$$

True

→ false

**Boolean ans =**

$$\textcircled{!} \textcircled{(40==40)} \textcircled{\&\&} 80>36$$

T

False

→ False

**Boolean ans =**

$$\text{!}((40==40) \& \& 80>36)$$

True                      True  
 ! (True)  
 ↓  
 False

**Boolean ans =**

$$(! (50>20) \mid \mid 90>2 \times 45) \& \& (30!=2 \times 15)$$

! (True) → false  
 ↓  
 False

1. boolean ans =  $40>=2*45 \mid \mid 30>=2*10 \rightarrow \text{True}$
2. boolean ans =  $40>3 \& \& 20>3 \rightarrow T$
3. boolean ans =  $50>7 \& \& 30>=40 \rightarrow F$
4. boolean ans =  $50<25 \mid \mid 30>2 \rightarrow T$
5. boolean ans =  $70<=75 \mid \mid 40<=2 \rightarrow T$
6. boolean ans =  $!(45==35) \rightarrow T$
7. boolean ans =  $(20<32 \& \& 2!=30) \& \& (35>=20 \mid \mid 35!=25) \rightarrow T$
8. boolean ans =  $!(20>=30) \rightarrow T$
9. boolean ans =  $!(30>40) \rightarrow T$
10. boolean ans =  $!(40==2*20) \& \& 75==15*5 \rightarrow F$   $\sqrt{28}$
11. boolean ans =  $!(40>=40) \mid \mid (50>=2*25) \rightarrow T$
12. boolean ans =  $!(10*5==50) \mid \mid (2*3==7 \mid \mid 9==28/3) \rightarrow T$
13. boolean ans =  $(20*5==100 \mid \mid 10!=10) \& \& (30*2==60 \mid \mid 50<40) \rightarrow T$
14. boolean ans =  $( !(90>=40) \& \& !(80>36) ) \rightarrow (F \mid \mid T)$
15. boolean ans =  $((50>=20) \mid \mid 90>2*45) \& \& (30!=2*15) \rightarrow F$