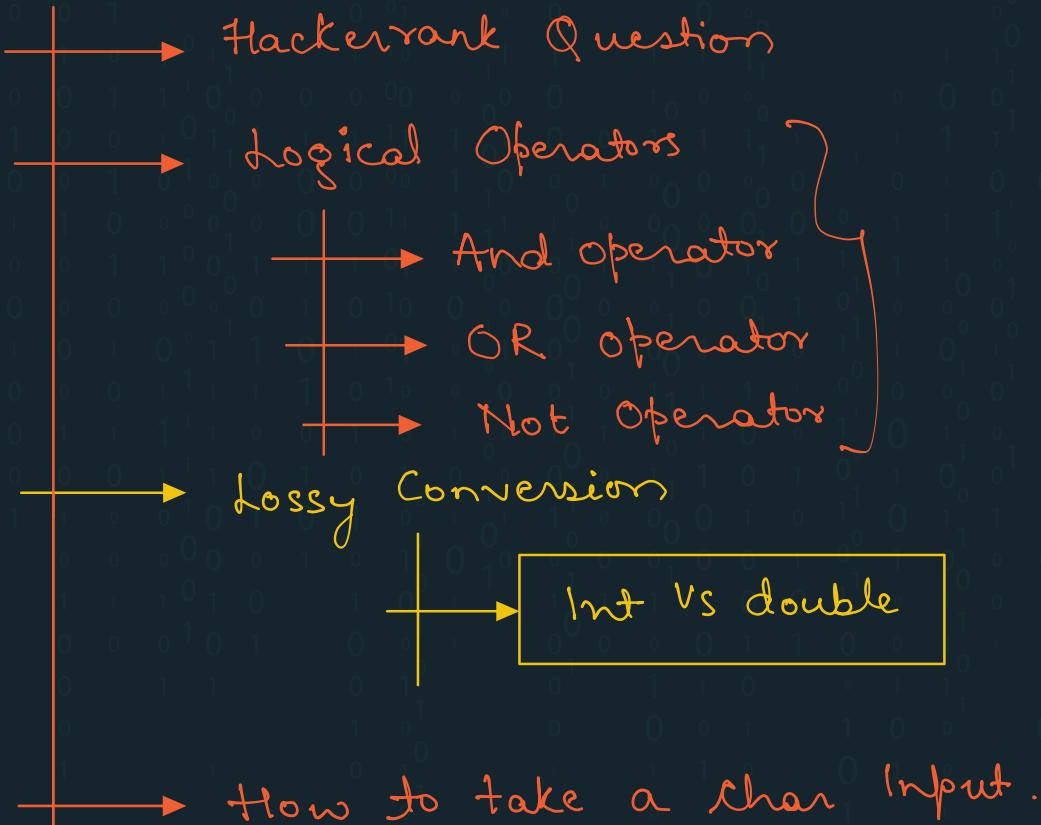


## Agenda :



## Hacker Rank Questions :

### Fahrenheit and Celsius

|         |             |             |             |
|---------|-------------|-------------|-------------|
| Problem | Submissions | Leaderboard | Discussions |
|---------|-------------|-------------|-------------|

You will be given Fahrenheit as input that should be stored in a double variable and print your answer in Celsius of data-type double.

Scanner → double f → input → 32.0

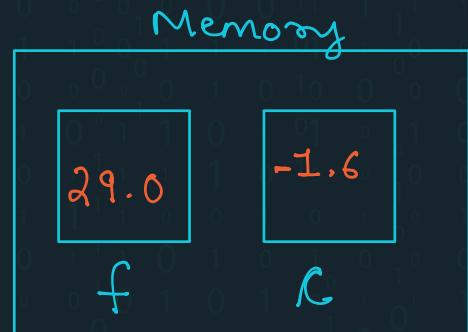
double c = ((f - 32) \* 5) / 9;

print(c);

```

/* Enter your code here. Read input from STDIN.
Scanner scn = new Scanner(System.in);
double Fahrenheit = scn.nextDouble();
double Celsius = ((Fahrenheit - 32) * 5 )/9;
System.out.println(Celsius); →
    29.0 - 32
    - 3.0 * 5

```



$$-15.0 / 9 \rightarrow 1.6$$

$$\begin{array}{r} 1 \cdot 6 \\ 9 \overline{) 15.0} \\ - 9 \\ \hline 6 \\ - 6 \\ \hline 0 \end{array}$$

## Add Last Digits

[Problem](#)
[Submissions](#)
[Leaderboard](#)
[Discussions](#)

You will be given two numbers of int data-type as input, and you have to print the sum of their last digits as output.

Test Case 1:

Given Inputs: 2357 48986

Expected Output: 13

$$\begin{array}{r} 2357 \\ 48986 \\ \hline 7 + 6 = 13 \end{array}$$

Explanation: The last digit of 2357 is 7 and the last digit of 48986 is 6, and the sum of these last digits is 13. Hence the output is 13.

```

Scanner scn = new Scanner(System.in);
int num1 = scn.nextInt();
num2 = sc.nextInt();
print( num1 % 10 + num2 % 10 )

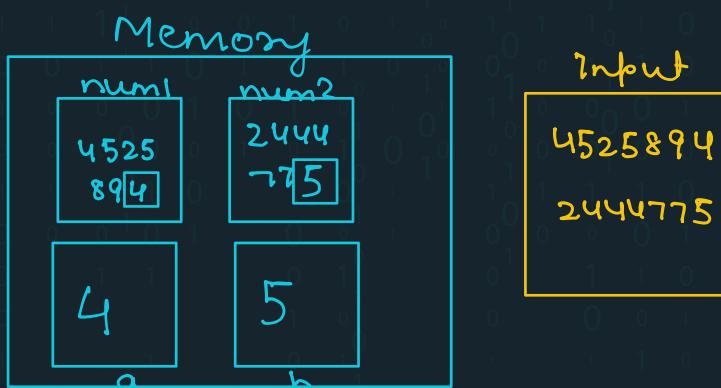
```

```

public static void main(String[] args) {
    /* Enter your code here. Read input from System.in */
    Scanner scn = new Scanner(System.in);
    int num1 = scn.nextInt();
    int num2 = scn.nextInt();
    int a = num1 % 10; → 4
    int b = num2 % 10; → 5
    System.out.println(a + b); 9
}

```

Top to  
down  
approach



## 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 → boolean  
Output: true

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



Scanner → 23

int num = scn.nextInt();

→ boolean ans = num > 100;

23 > 100  
→ False

print(ans);

2

Scanner →

int num →

print(num > 100);

3 lines

```
/* Enter your code here. Read input from STDIN */
Scanner scn = new Scanner(System.in);
int num = scn.nextInt(); →
System.out.println(num > 100);
}
```

$45 > 100 \rightarrow \text{False}$

Memory

45

num

input

45

## Sum is less than 150 or not.

Problem

Submissions

Leaderboard

Discussions

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  
y  
z

input

int sum = x+y+z

print(sum < 150);

```

public static void main(String[] args) {
    /* Enter your code here. Read input from STDIN. Print output to STDOUT */
    Scanner scn = new Scanner(System.in);
    int x = scn.nextInt();
    int y = scn.nextInt();
    int z = scn.nextInt();
    int sum = x+y+z;
    System.out.println(sum < 150);
}

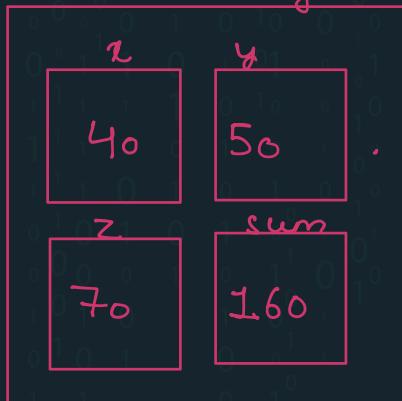
```



$160 < 150$

False

Memozy



## XYZW

[Problem](#)
[Submissions](#)
[Leaderboard](#)
[Discussions](#)

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.

Scanner →

$x$   
 $y$   
 $z$   
 $w$

input

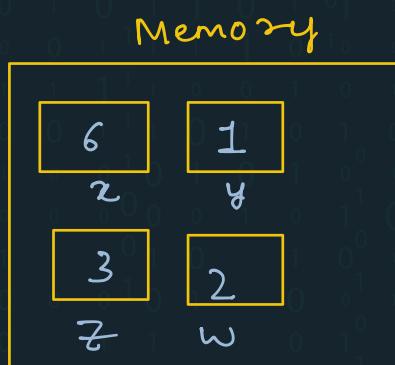
$(x*y == z*w);$

$\{$   
int a =  $x * y;$   
int b =  $z * w;$   
boolean ans = a == b;  
print(ans);  
 $\}$

```

public static void main(String[] args) {
    /* Enter your code here. Read input from STDIN. Pr
Scanner scn = new Scanner(System.in);
int x = scn.nextInt(); 6
int y = scn.nextInt(); 1
int z = scn.nextInt(); 3
int w = scn.nextInt(); 2
System.out.println((x*y) == (z*w)); → True
6           3*2

```



## Even or not

[Problem](#)
[Submissions](#)
[Leaderboard](#)
[Discussions](#)

You have to take an integer as input and print true if it is an even number and false otherwise.

→ Scanner →

```

int num =
print (num % 2 == 0);

```

```

/* Enter your code here. Read input fro
Scanner scn = new Scanner(System.in);
int num = scn.nextInt();
System.out.println(num % 2 == 0);

```

## Logical Operators:

- And Logical
- OR Logical
- Not Logical

**And Logical Operator : [ && ]**

[cond1 && cond2]; → T && T → T

| cond 1 | cond 2 | 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) → True  
 d = a+b+c → d =  
 // Since both the conditions are true  
 d = 50. ✓

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

    result = (age >= 18 && salary >= 1000);
    System.out.println(result); / False
```

## OR Logical Operator : ( || )

Cond1 || cond2

| cond1 | cond2 | Result |
|-------|-------|--------|
| T     | T     | T      |
| T     | F     | T      |
| F     | T     | T      |
| F     | F     | F      |

a = 10, b = 20, c = 20

condition1: a < b → 10 < 20 → True

condition2: b > c → 20 > 20 → False

```

    T      F
if(condition1 || condition2) →
d = a+b+c → 10+20+20
  
```

// 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 >= 600);
    System.out.println(result); //True
    result = (age >30 || salary >= 1000);
    System.out.println(result); // False
}
  
```

## NOT LOGICAL OPERATOR : $(!)$

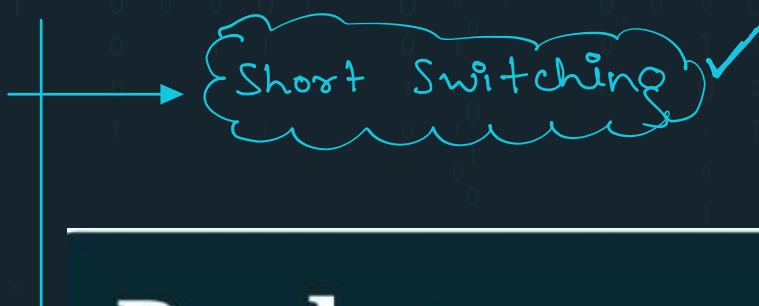
| $!(\text{cond})$ |        |
|------------------|--------|
| cond             | Result |
| T                | F      |
| F                | T      |

$a = 10 \quad b = 20$

$!(a < b) ; \rightarrow \text{False}$   
 $\underline{!(\text{T})}$

$!(b < a) \rightarrow \text{True}$   
 $\underline{!(\text{F})}$

### Challenges :



Boolean ans =

**3 > 2 && 14 > 3**

T

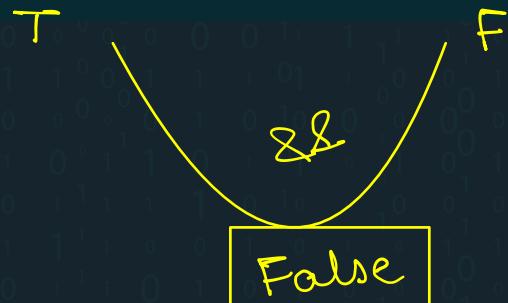
T

&&

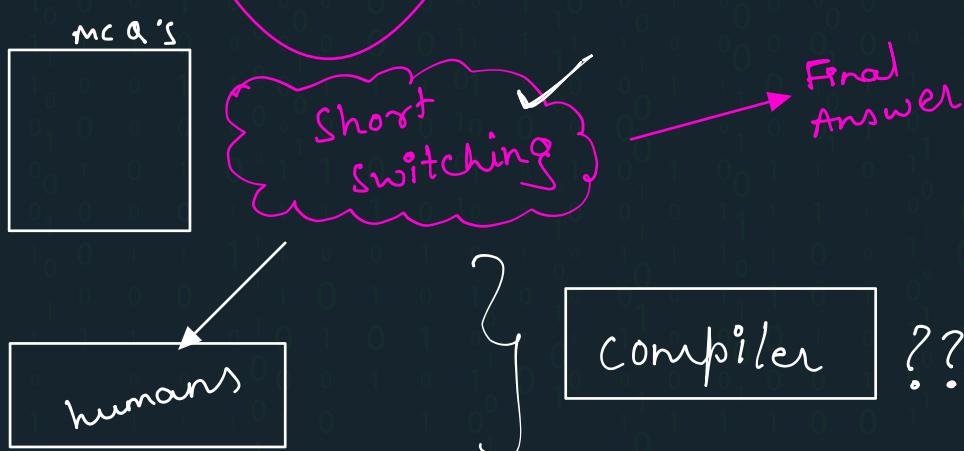
True

# Boolean ans =

**40>3 && 40>50**



Boolean ans =  
 $40 >= 40 \quad | \quad | \quad 50 >= 2 * 25$



**Boolean ans =**

$(2 \times 3 == 4) \&\& (6 \times 4 == 9) \mid\mid (4 > 2)$

$6 == 4$

optional

False ✓

False

F && T/F

True

False

Note:

✓ T with OR

✓ F with And

F || T → True

short  
circuiting ✓

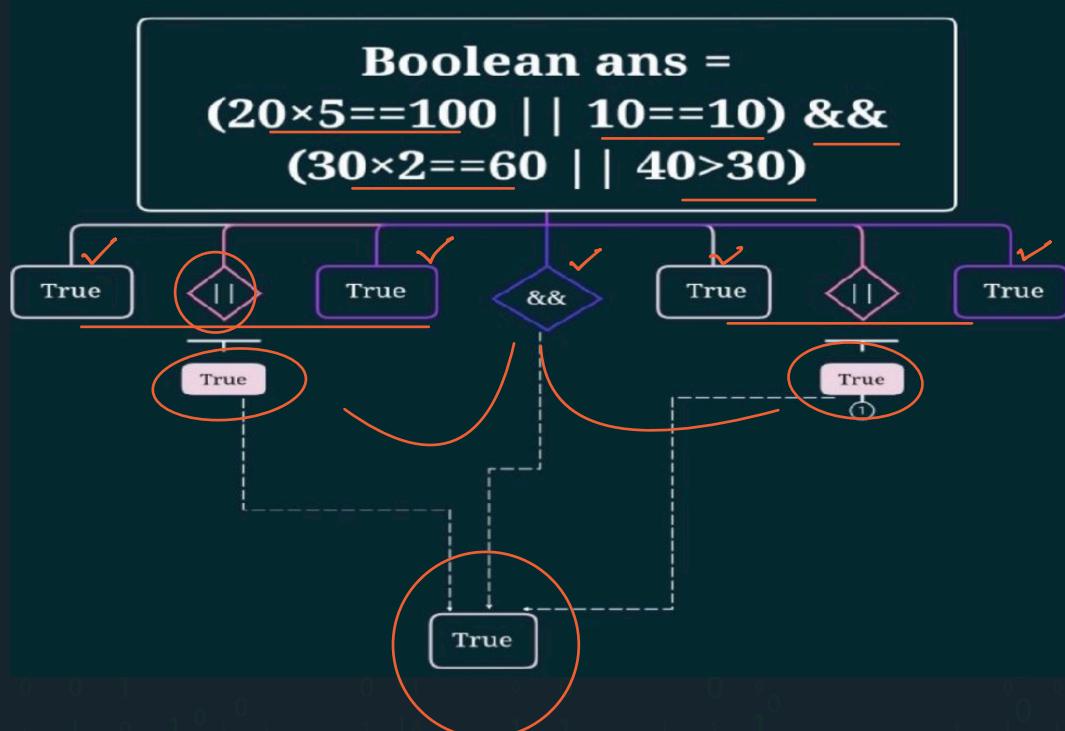
**Boolean ans =**

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

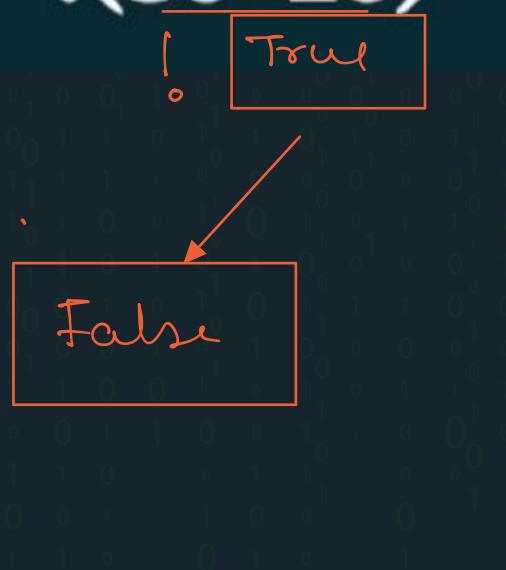
False

optional

False



Boolean ans = !(30 > 20)



Boolean ans = !(30==30)

! True

False

Boolean ans =  
 $\underline{!(30>=20 \text{ || } 40>=10)}$

! True

optional

False

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

optional

! ( $\tau$ ) → False && () → False

Boolean ans =

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

! True

False

**Boolean ans =**  
 $(!(40==40) \&\& 80>36)$



**Boolean ans =**  
 $(!(50>20) || 90>2\times45) \&\& (30!=2\times15))$



# lossy Conversion?

int

Integer

double

decimal

a. int  $x=2+3 \rightarrow 5$  ✓

b. int  $x = 3+8-29 \rightarrow -18$

c. int  $x = 4 + 5.2 - 8.3 + 9.2$

conversion

16.5

$$\begin{aligned} 4 + 5.2 - 9.2 - 8.3 \\ = 0.9 + 9.2 \\ = 10.1 \end{aligned}$$

d. double  $x = 4.1 + 8.9 + 3.5$

10

e. int  $x = 4 * 3 / 8 + 2.5 * 2$

conversion

12/8

1

+ 5

6

( ) > \* / % > + -

f. `double x=22 + 4 * 2`  $\rightarrow 22 + 8 = \boxed{30} \boxed{30.0}$

g. `double x=8 / 5 + 13 / 2`  $\rightarrow \frac{1}{5} + 6 = \boxed{7.0}$

h. `double x=8.0/5 + 13/2`  $1.6 + 6 = \boxed{7.6}$

i. `double x=8.0/5 + 13.0/2`

$$\begin{array}{r} 1.6 \\ 5 \sqrt{8.0} \\ \hline 30 \\ \hline \end{array}$$

j. `int x=392 / 10 % 10 / 2`

$$\begin{array}{r} \text{left to right} \\ 5 \\ \hline 3.0 \\ 30 \\ \hline \end{array}$$

k. `int x=39%2*3`

$$\begin{array}{r} 6.5 \\ 2 \sqrt{13.0} \\ \hline 12 \\ 1.0 \\ \hline 10 \\ \hline \end{array}$$

$$1 * 3 = 3$$

$$\boxed{1.6} + \boxed{6.5} = \boxed{8.1}$$

$$\boxed{39 \% 10} \rightarrow \cancel{9}/\cancel{2} \rightarrow \boxed{4}$$

$$\begin{array}{r} 39 \\ 10 \sqrt{392} \\ \hline 30 \\ \hline 92 \\ 90 \\ \hline 2 \end{array}$$

$\boxed{39 \% 2} \rightarrow 1 * 3 = 3$

How to take an Char Input?  $\rightarrow$  `nextChar()`

$\times$

String

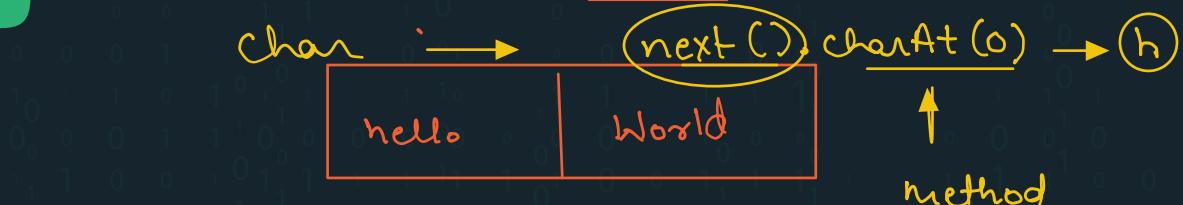
`charAt (pos)`

$n$

`charAt (0) → k`

|                |                |                |                |                |                |                |
|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| <code>k</code> | <code>π</code> | <code>i</code> | <code>s</code> | <code>h</code> | <code>n</code> | <code>a</code> |
| 0              | 1              | 2              | 3              | 4              | 5              | 6              |

`char` → `next()` → `hello`



```
Scanner scn = new Scanner(System.in);
char alpha = scn.next().charAt(0);
System.out.println(alpha);
```

$$\begin{aligned} Z &= x \&\& !y \\ &= T \&\& !F \end{aligned}$$

$$\begin{aligned} &= T \&\& T \\ &= \text{True} \end{aligned}$$

T || T && F

False

`x = 5`  
`y = True`  
`if (True && 5 < 10) {`  
 `z++`  
`}`  
`print(z)`

5. What is the value of the variable x after the following code is executed?

```
int x = 5; ✓
boolean y = true;
if (y && x < 10) {
    x++;
} (Single Choice) *
```

$$x = 5 \checkmark$$

$$y = \text{True}$$

( $\top \And (5 < 10)$ ) {

$x++;$

6