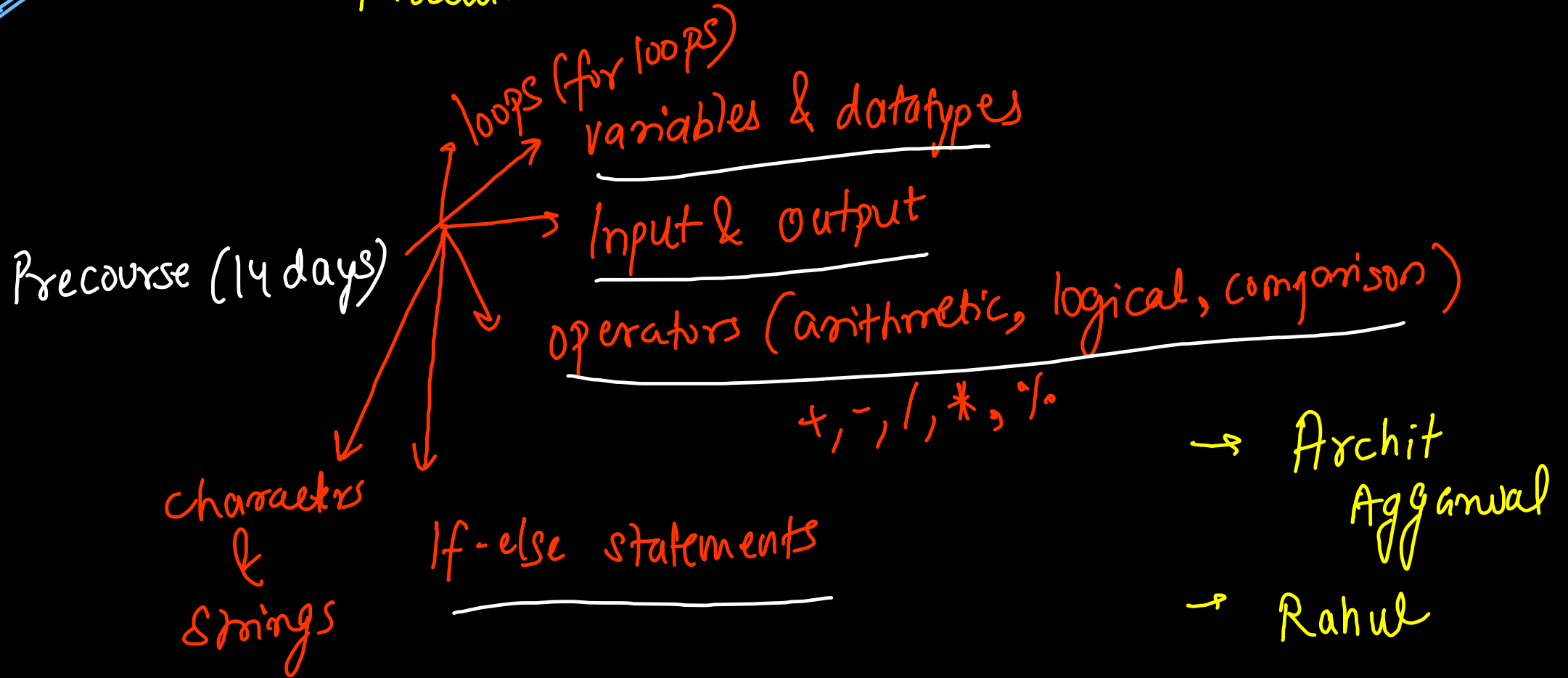


Day 1

FS - 11

Java Basics

Module - 1



Archit Aggarwal

SDE @ Salesforce

Senior @ DTU (CS' Btech)

2000+ Problems on Leetcode, GFG, Hackerrank, Peppcoding

1.5 yr (10-11 months)

Shop Discount

A shop will give a discount of 10% on the total cost if the cost of the quantity purchased is more than 1000. a. Ask user for the number of units b. Suppose, one unit will cost 100. c. Judge and print total cost for the user in the integer format.

$\text{Cost} > 1000 \Rightarrow 10\% \text{ discount}$

$\text{Cost} \leq 1000 \Rightarrow 0\% \text{ discount}$

$\text{price per unit} = 100 \text{ Rs}$

$\text{total cost} = \text{units} * \text{price}$

```

import java.io.*;
import java.util.*;

public class Solution {

    public static void main(String[] args) {
        Scanner scn = new Scanner(System.in);

        int units = scn.nextInt();
        int totalCost = units * 100;

        if(totalCost > 1000){
            totalCost = totalCost * 90 / 100;
        }

        System.out.println(totalCost);
    }
}

```

units = 5

totalcost = $5 \times 100 = 500$

$500 > 1000$

false

units = 20

totalcost = $20 \times 100 = 2000$
 $= 1800$

$2000 > 1000$

true

Print Bonus

The bonus in a company is given by $\text{Bonus} = \text{Salary} * (5 / 100)$. A company decided to give a bonus of 5% to employees if his/her years of service is more than 5 years. Ask user for their salary and year of service and print the net bonus amount. If the years of service is less than or equal to 5, print 0, otherwise print Bonus calculated.

years of service > 5

$$\text{bonus} = \text{salary} \times 5/100 \quad \text{eg}$$

20000

6 > 5

$$\text{bonus} = \frac{20000 \times 5}{100} = 1000$$

≤ 5

$$\text{bonus} = 0$$

eg

100000

5 ≤ 5

$$\text{bonus} = 0$$

```
public static void main(String[] args) {  
    Scanner scn = new Scanner(System.in);  
  
    int salary = scn.nextInt();  
    int years = scn.nextInt();  
  
    if(years > 5){  
        int bonus = salary * 5 / 100;  
        System.out.println(bonus);  
    } else {  
        System.out.println("0");  
    }  
}
```

Attendance
minute by minute

$$\begin{aligned} \text{salary} &= 25 \\ &= 25 \times 5 / 100 \\ &= 125 / 100 \\ &= 1.25 \end{aligned}$$

Print oldest among three

eg1

$A = 10, B = 20, C = 30 \Rightarrow "C"$

eg2

$A = 20, B = 30, C = 10 \Rightarrow "B"$

eg3

$A = 30, B = 5, C = 15 \Rightarrow "A"$

if-else-if ladder

```
if (a > b && a > c)
{ System.out.println("A"); }
else if ( b > c )
{ syso("B"); }
else
{ syso("C"); }
```

eg 3 A = 30, B = 5, C = 15

A > B	&&	A > C
30 > 5	&&	30 > 15
true		true

= true

"A"

eg1 $A=10, B=20, C=30$

$$\begin{aligned} \textcircled{1} \quad & 10 > 20 \quad \&\& \quad ? \\ & \text{False} \quad \&\& \quad ? \\ & = \text{false} \end{aligned}$$

$$\textcircled{2} \quad 20 > 30 = \text{false}$$

$$\textcircled{3} \quad \underline{\underline{C}}$$

eg2 $A=20, B=30, C=10$

$$\begin{aligned} \textcircled{1} \quad & A > B \quad \&\& \quad A > C \\ & 20 > 30 \quad \&\& \quad ? \\ & \text{false} \quad \&\& \quad ? = \text{false} \end{aligned}$$

$$\begin{aligned} \textcircled{2} \quad & B > C \\ & 30 > 10 \Rightarrow \text{true} \\ & \quad \quad \quad \sim B^c \end{aligned}$$

ladder

```
public static void main(String[] args) {
    Scanner scn = new Scanner(System.in);

    int a = scn.nextInt();
    int b = scn.nextInt();
    int c = scn.nextInt();

    if(a > b && a > c)
    {
        System.out.println("A");
    }
    else if(b > c)
    {
        System.out.println("B");
    }
    else
    {
        System.out.println("C");
    }
}
```

nested if else

```
public static void main(String[] args) {
    Scanner scn = new Scanner(System.in);
    int a = scn.nextInt();
    int b = scn.nextInt();
    int c = scn.nextInt();

    if(a > b)
    {
        if(a > c)
            System.out.println("A");
        else
            System.out.println("C");
    }
    else
    {
        if(b > c)
            System.out.println("B");
        else
            System.out.println("C");
    }
}
```

```

public static void main(String[] args) {
    Scanner scn = new Scanner(System.in);
    int a = scn.nextInt();
    int b = scn.nextInt();
    int c = scn.nextInt();

    1 if(a > b)
    {
    2     if(a > c)
    3         System.out.println("A");
    4     else
    5         System.out.println("C");
    6 }
    else
    {
    7     if(b > c)
    8         System.out.println("B");
    9     else
    10        System.out.println("C");
    }
}

```

Q3 ~~A = 20~~, B = 30, ~~C = 15~~

1. $20 > 30$

false

7. $b > c$
 $30 > 15$

true

8. "B"

eg1

~~A = 10~~, ~~B = 20~~, C = 30

1. A > B

10 > 20

false

2. B > C

20 > 30

false

3. "C"

eg2 ~~A = 20~~, ~~B = 5~~, ~~C = 10~~

1. A > B

20 > 5

true

2. A > C

20 > 10

true

3. "A"

```
public static void main(String[] args) {  
    Scanner scn = new Scanner(System.in);  
    int a = scn.nextInt();  
    int b = scn.nextInt();  
    int c = scn.nextInt();  
  
    String res = (a > b) ? ((a > c) ? "A" : "C") : ((b > c) ? "B" : "C");  
    System.out.println(res);  
}
```

using ternary
operator
(not intuitive)

Print final z

x

y

z

Take input three numbers x, y, z as an integer input

Then if the value of x is greater than or equal to 20,

- a. If the value of y is greater than or equal to 100 then add 100 to the value of z.
- b. If the value of y is less than 100 and greater than or equal to 50, then add 50 to the value of z.
- c. Else add 10 to the value of z.

Else if the value of x is less than 20,

- a. If the value of y is greater than or equal to 100 then add 3 to the value of z.
- b. If the value of y is less than 100 and greater than or equal to 50, then add 2 to the value of z.
- c. Else add 1 to the value of z.

Print the final value of z as an integer output in the end.

if($x \geq 20$)

{
 if($y \geq 100$) $z = z + 100$;
 else if($y \geq 50$) $z = z + 50$;
 else $z = z + 10$;
}

else {
 if($y \geq 100$) $z = z + 3$;
 else if($y \geq 50$) $z = z + 1$;
 else $z = z + 1$;
}

System.out.println(z);

x y z
30, 120, 30
yellow 30 \geq 20

green 120 \geq 100

$100 + 30 = 130$

x y z
22 55 40

yellow

22 \geq 20

green

$y \geq 100 \Rightarrow 55 \not\geq 100$

$y \geq 50 \Rightarrow 55 \geq 50$

$40 + 50 = 90$

```
public static void main(String[] args) {  
    Scanner scn = new Scanner(System.in);  
  
    int x = scn.nextInt();  
    int y = scn.nextInt();  
    int z = scn.nextInt();  
  
    if(x >= 20)  
    {  
        if(y >= 100) System.out.println(z + 100);  
        else if(y >= 50) System.out.println(z + 50);  
        else System.out.println(z + 10);  
    }  
    else  
    {  
        if(y >= 100) System.out.println(z + 3);  
        else if(y >= 50) System.out.println(z + 2);  
        else System.out.println(z + 1);  
    }  
}
```