Print the final incremented salary

Take in three inputs **age**, **salary**, **experience**, then

a. If **age** is greater than **60** and **salary** is greater than **20,000** and **experience** is greater than **20 years**, then **add 5000 to the salary.**

b. If **age** is greater than **40** and **salary** is greater than **15,000** and **experience** is greater than **10 years**, then **add 2000 to the salary.**

c. If **age** is greater than **30** and **salary** is greater than **10,000** and experience is greater than **5 years, then add 1000 to the salary.**

d. Otherwise **add 500 to the salary.**

In the end Print the **final salary.**

```java
1  import java.io.*;
2  import java.util.*;
3
4  public class Solution {
5
6      public static void main(String[] args) {
7          Scanner scn = new Scanner(System.in);
8          int age = scn.nextInt();
9          int sal = scn.nextInt();
10         int exp = scn.nextInt();
11
12         if(age > 60 && sal > 20000 && exp > 20){
13             sal = sal + 5000;
14         }else if(age > 40 && sal > 15000 && exp > 10){
15             sal = sal + 2000;
16         }else if(age > 30 && sal > 10000 && exp > 5){
17             sal = sal + 1000;
18         }else{
19             sal = sal + 500;
20         }
21
22
23         System.out.println(sal);
24     }
25 }
```

[handwritten notes: "i/p { age, sal, exp"]

[handwritten notes: "if (age > 60 && sal > ...   sal = sal +   ...   else if"]

Print final z given xyz

Take in **x**, **y**, **z** as integer inputs from the user,

a. If **x is greater than or equal to 20** and **z is less than 100** then **add 200 to the value of z.**

b. If **x is greater than or equal to 10,** or **y is less than 50** Then **add 100 to the value of z.**

In the end print the final value of **z** as an integer output.

i/p $\begin{cases} x \\ y \\ z \end{cases}$

$x \geq = 20$ && $z < 100$

$\hookrightarrow z = z + 200$

Sample Input 0

```
25
30
80
```

Sample Output 0

```
280
```

$x \geq 10$ || $y < 50$

$z = z + 100$

Print if divisible by both 3 and 4

Print **Divisible by** 3 and 4 if the given integer is divisible by **both 3 and 4**

Print **Not Divisible** if the given integer is not divisible by **both 3 and 4.**

Sample Input 0

32

Sample Output 0

Not Divisible

$x = 30$

$$x \% 3 == 0$$

$$x \% 4 == 0 \quad T$$

$$40 / 3 = ?$$

$$30 / 3 == 10$$

$$31 / 3 == [10]$$

Submitted Code

Language: Java 8

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

public class Solution {

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

        if(x % 3 == 0 && x % 4 == 0){
            System.out.println("Divisible by 3 and 4");
        }else{
            System.out.println("Not Divisible");
        }
    }
}
```

Character data type

char   (ch)   =   'a' ;
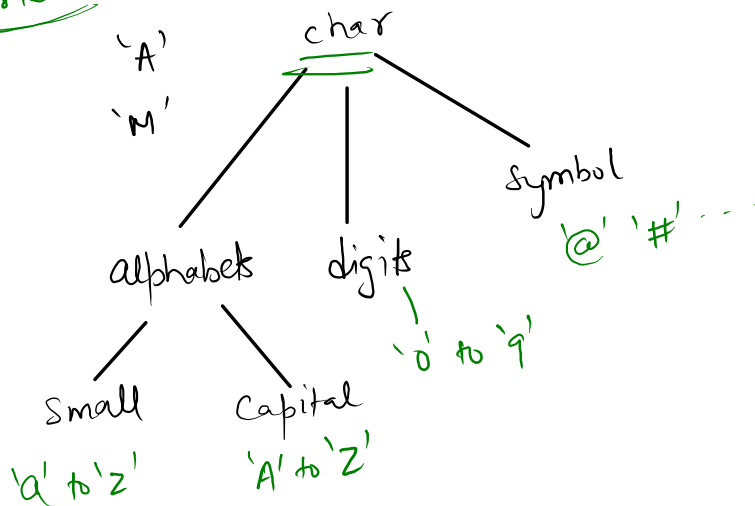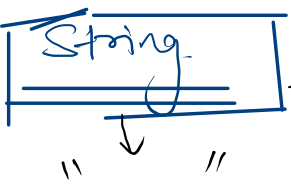
Single   Quotes → char

"Hello World"

'A'
'M'

int

'H'

Different

int   val = 7 ;

char   ch = '7' ;

char

alphabets   digits   symbol

'@' '#' ...

'0' to '9'

Small   Capital

'a' to 'z'   'A' to 'Z'

String

→ Stream of char.

" ↓ "

↳ 0 or more char together makes a string.

"Hello World";

"" "H" "HW" ✓

String i/p } ⟶ space

char i/p.

Switch.

More function related to string.

String input.

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

        String s = scn.next();

        System.out.println("Your String:  " + s);
    }
}
```

→ i/p before a space

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

        String s = scn.nextLine();

        System.out.println("Your String:  " + s);
    }
}
```

```
I am learning, Java
Your String:  I am learning, Java
```

String functions.

String s = "Aman" ;

$\downarrow$ position

"A m a n" ;
  0 1 2 3

$\longrightarrow$ (S). charAt (3);

.charAt(idx);

```java
import java.util.Scanner;
public class Main
{
    public static void main(String[] args) {
        String s = "Aman";
        System.out.println(s.charAt(3));
    }
}
```

```java
import java.util.Scanner;
public class Main
{
    public static void main(String[] args) {
        String s = "Aman";
        System.out.println(s.charAt(8));
    }
}
```

Input

```
Exception in thread "main" java.lang.StringIndexOutOfBoundsException: String index out of range: 8
        at java.base/java.lang.StringLatin1.charAt(StringLatin1.java:47)
        at java.base/java.lang.String.charAt(String.java:693)
        at Main.main(Main.java:6)
```

Us •

char i/p

char   ch = scn.next() . charAt(0);

```java
1  import java.util.Scanner;
2  public class Main
3  {
4      public static void main(String[] args) {
5          Scanner scn = new Scanner(System.in);
6  
7          char ch = scn.next().charAt(0);
8  
9          System.out.println("Character is : " + ch);
10 
11     }
12 }
13 
```

```
Aman
Character is : A
```

Switch Case. → Conditional Statement

* if else / switch

* when to if /else.

```java
import java.util.Scanner;
public class Main
{
    public static void main(String[] args) {
        int val = 2;
        switch(val){
            case 1:                          //if(val  == 3)
                System.out.println("One");
                break;
            case 2:
                System.out.println("Two");
                break;
            case 3:
                System.out.println("Three");
                break;

            default:                         //else
                System.out.println("Something else");

        }

    }
}
```

Grade the student-2

You are given a character **ch** which represents a grade of a student in a course. The valid grades are **A, B, C,** and **F**. Your task is to print a message based on the grade using a **switch statement**.

If the grade is **A**, print **Excellent!**.

If the grade is **B**, print **Well done!**.

If the grade is **C**, print **You passed!**.

If the grade is **F**, print **Better luck next time!**.

If the grade is not one of the valid options, print **Invalid grade.**

```java
1  import java.util.Scanner;
2  public class Main
3  {
4      public static void main(String[] args) {
5          char val = 'a';
6          switch(val){
7              case 'a':                        //if(val   == 3)
8                  System.out.println("One");
9                  break;
10             case 'b':
11                 System.out.println("Two");
12                 break;
13             case 'c':
14                 System.out.println("Three");
15                 break;
16
17             default:                         //else
18                 System.out.println("Something else");
19
20         }
21
22      }
23  }
```

input

One

Switch :-   Grade   Student 2.

```java
1  import java.io.*;
2  import java.util.*;
3
4  public class Solution {
5
6      public static void main(String[] args) {
7          Scanner scn = new Scanner(System.in);
8          char ch = scn.next().charAt(0);
9
10         switch(ch){
11             case 'A':
12                 System.out.println("Excellent!");
13                 break;
14             case 'B':
15                 System.out.println("Well done!");
16                 break;
17             case 'C':
18                 System.out.println("You passed!");
19                 break;
20             case 'F':
21                 System.out.println("Better luck next time!");
22                 break;
23             default:
24                 System.out.println("Invalid grade");
25         }
26
27     }
28 }
```

scn. next ( );

Switch Calculator 1

You are given integer inputs **N** , **a** and **b**. perform operations on **a** and **b** for different value of **N** like :-

If value of **N** is **10** -> **a + b**;

If value of **N** is **20** -> **a - b**;

If value of **N** is **30** -> **a * b**;

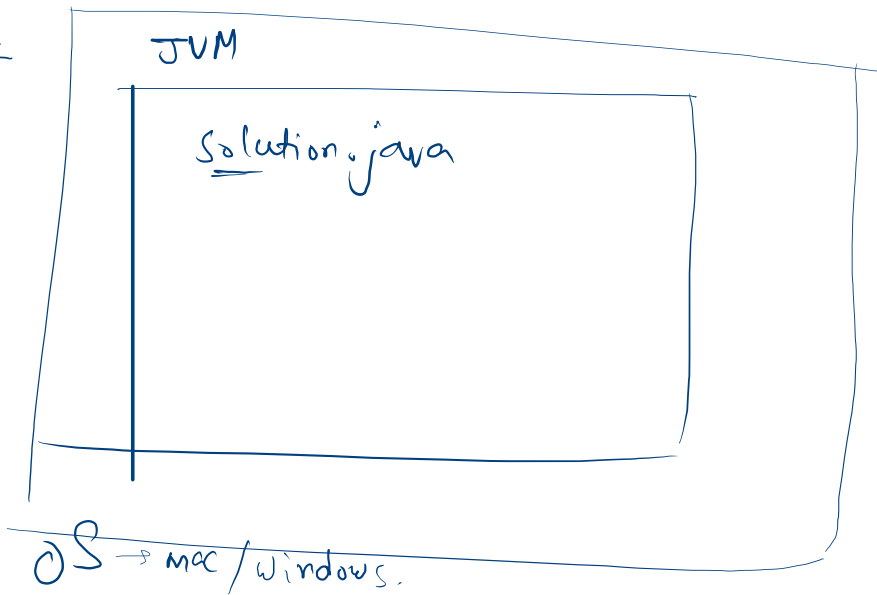If value of **N** is **40** -> **a % b**;

If value of **N** is **50** -> **a / b**;

else print **Enter a valid number**.

eg.   n = 30
      a = 10   } ans = ?
      b = 8

```java
 1 import java.io.*;
 2 import java.util.*;
 3
 4 public class Solution {
 5
 6     public static void main(String[] args) {
 7         Scanner scn = new Scanner(System.in);
 8         int n = scn.nextInt();
 9         int a = scn.nextInt();
10         int b = scn.nextInt();
11
12
13         switch(n){
14             case 10:
15                 System.out.println(a+b);
16                 break;
17             case 20:
18                 System.out.println(a-b);
19                 break;
20             case 30:
21                 System.out.println(a*b);
22                 break;
23             case 40:
24                 System.out.println(a%b);
25                 break;
26             case 50:
27                 System.out.println(a/b);
28                 break;
29             default:
30                 System.out.println("Enter a valid number");
31         }
32     }
33 }
```

Solution.java

JVM

Solution.java

OS → mac / windows.

C++

Solution.cpp

OS