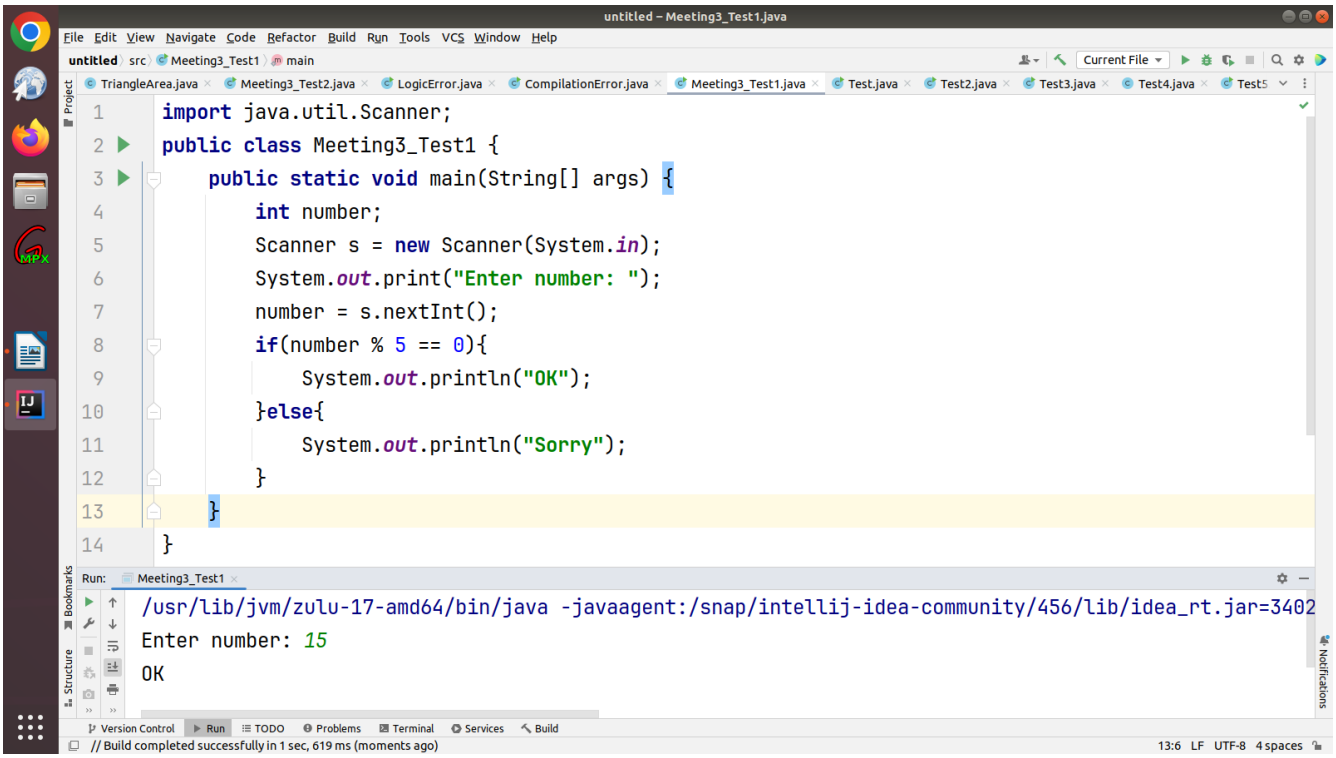
TM105 – Meeting 3

الاكواد

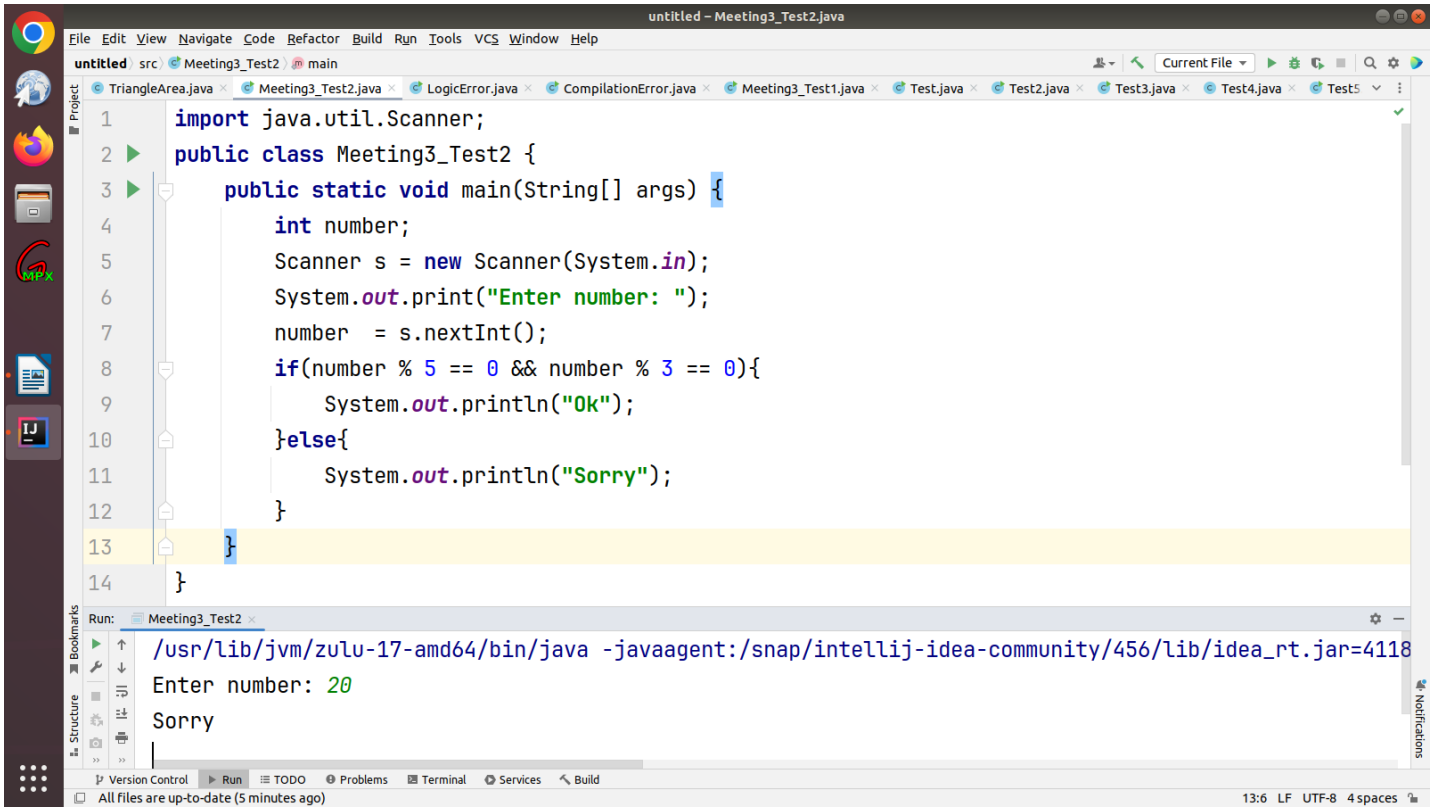
Example:

Write a program to read an integer from user. The program check if the number is divisible by 5 or not. If the number is divisible by 5 the program prints "OK", otherwise, it prints "Sorry".



Example:

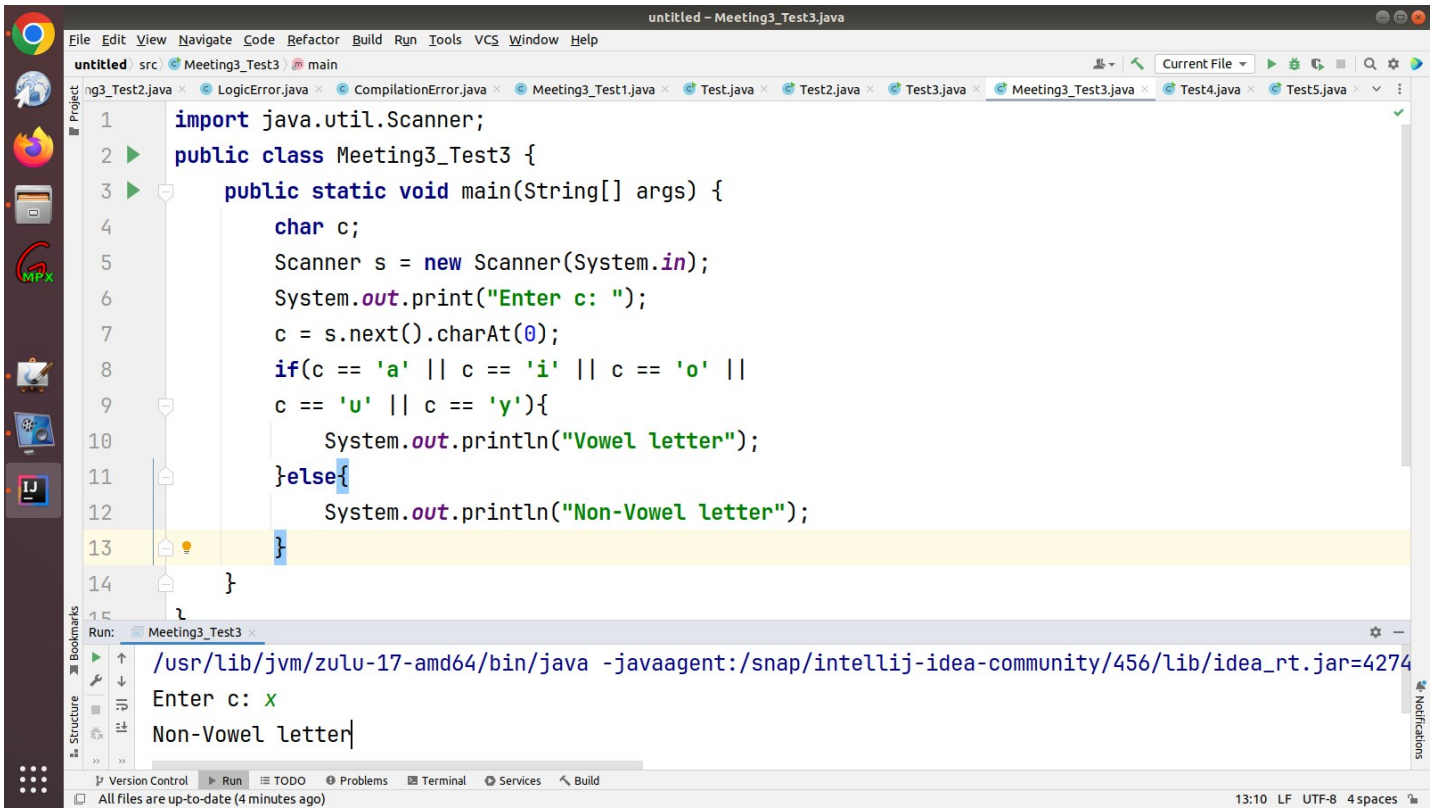
Write a program to read an integer from user. The program check if the number is divisible by 5 and 3 or not. If the number is divisible by 5 and 3 the program prints “OK”, otherwise, it prints “Sorry”.



Example:

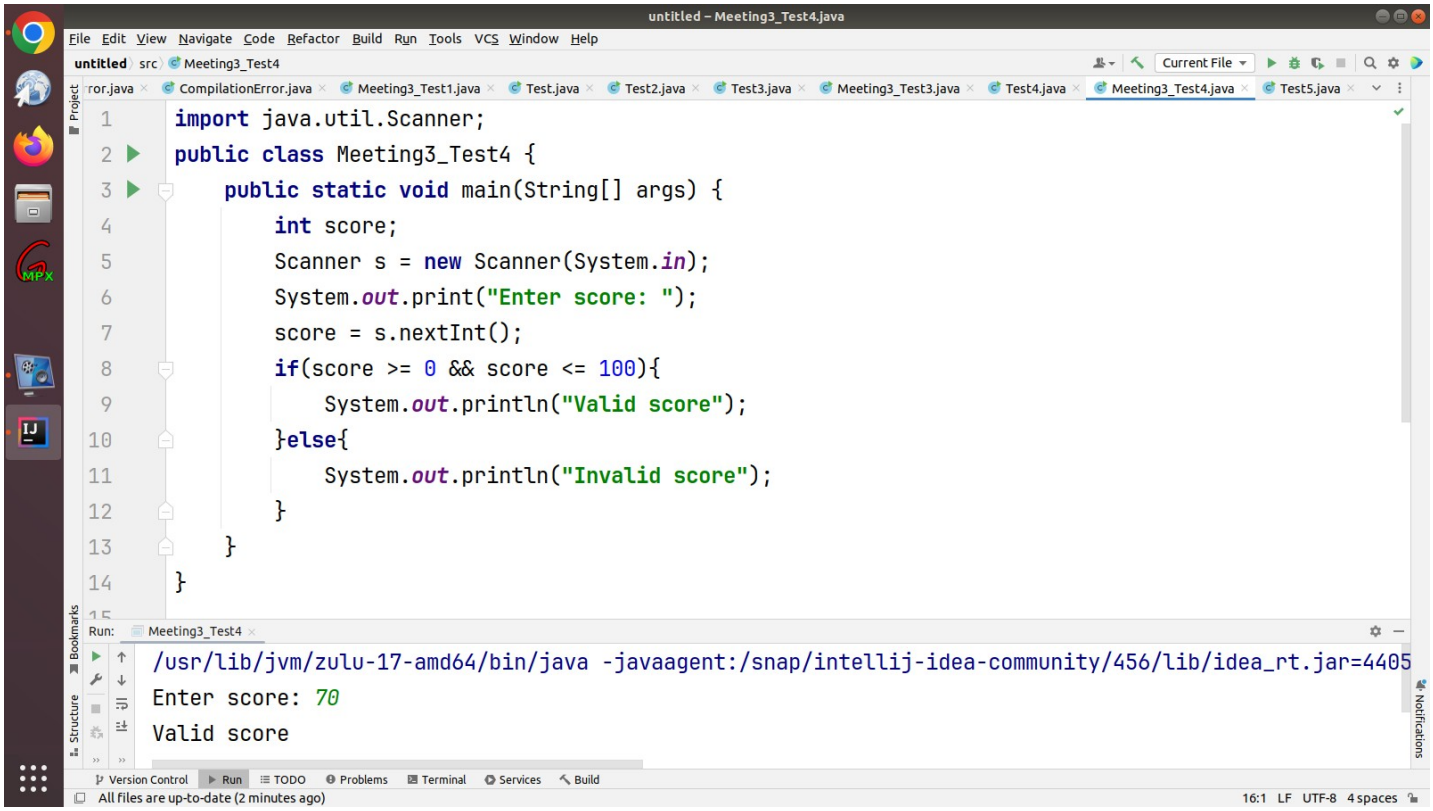
Write a program to read a character from user. If the character is ‘a’ or ‘i’ or ‘o’ or ‘u’ or ‘y’ the program prints “Vowel letter”, otherwise, it prints “Non-Vowel letter”.

Note: To read a character from user you need to use next().charAt(0)



Example:

Write program to read the student score. The program prints "Valid score" if the score is greater than or equals 0 and less than or equals 100, otherwise, it prints "Invalid score".



Example:

Write a program to read a student score. The program prints the student grade according to his score:

If score is greater than or equals 90 - the grade is "A".
If score is greater than or equals 80 - the grade is "B".
If score is greater than or equals 70 - the grade is "C".
If score is greater than or equals 60 - the grade is "D".
Otherwise, the grade is "F".

```
import java.util.Scanner;
public class Meeting3_Test5{
	public static void main(String[] args) {
		int score;
		Scanner s = new Scanner(System.in);
		System.out.print("Enter score: ");
		score = s.nextInt();
		if(score >= 0 && score <= 100){
			if(score >= 90){
				System.out.println("A");
			}else if(score >= 80){
				System.out.println("B");
			}else if(score >= 70){
				System.out.println("C");
			}else if(score >= 60){
				System.out.println("D");
			}else{
				System.out.println("F");
			}
		}else{
			System.out.println("Invalid score");
		}
	}
}
```

Example:

Write a program to read a the day number.
The program prints "Saturday" if the day number equals 1.
The program prints "Sunday" if the day number equals 2.
The program prints "Monday" if the day number equals 3.
The program prints "Tuesday" if the day number equals 4.
The program prints "Wednesday" if the day number equals 5.
The program prints "Thursday" if the day number equals 6.
The program prints "Friday" if the day number equals 7.
Otherwise, it prints "Invalid day"

```
import java.util.Scanner;
public class Meeting3_Test6 {
	public static void main(String[] args) {
		int day;
		Scanner s = new Scanner(System.in);
		System.out.print("Enter day: ");
		day = s.nextInt();
		if(day == 1){
			System.out.println("Satuerday");
		}else if(day == 2){
			System.out.println("Sunday");
		}else if(day == 3){
			System.out.println("Monday");
		}else if( day == 4){
			System.out.println("Tuesday");
		}else if( day == 5){
			System.out.println("Wednesday");
		}else if(day == 6){
			System.out.println("Thuersady");
		}else if(day == 7){
			System.out.println("Friday");
		}else{
			System.out.println("Invalid day");
		}
	}
}
```

Example:

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Q2. Write a Java program according to the following specifications [20 Marks]:

- Read from the user a temperature as areal number and the unit the temperature is in. The unit could be either C or F.
- If the user enters C, the program should then convert the temperature from Celsius to Fahrenheit and print it rounded to 2 decimal values, using the formula:
  $F = \frac{9}{5}C + 32$
- If the user enters F, the program should then convert the temperature from Fahrenheit to Celsius and print it rounded to 2 decimal values, using the formula:
  $C = \frac{5}{9}(F - 32)$
- If the user enters a unit other than C or F, the program should print an error message and nothing should be calculated.

Here are 3 different samples of the program run to help you understand how the program works.

1	Enter the temperature: 96 Enter the unit (C or F): C 96.00 Celsius is 204.80 Fahrenheit
2	Enter the temperature: 66.5 Enter the unit (C or F): F 66.50 Fahrenheit is 19.17 Celsius
3	Enter the temperature: 34 Enter the unit (C or F): D Invalid input

```java
import java.util.Scanner;
public class Meeting3_Test7 {
	public static void main(String[] args) {
		double t, c, f;
		char unit;
		Scanner s = new Scanner(System.in);
		System.out.print("Enter the temprature: ");
		t = s.nextDouble();
		System.out.print("Enter the unit(C or F): ");
		unit = s.next().charAt(0);
		if(unit == 'C'){
			f = 9.0 / 5 * t +32;
			System.out.printf("%.2f Celsuis is %.2f Fahernheit", t, f);
		}else if(unit == 'F'){
			c = 5.0 / 9 * (t - 32);
			System.out.printf("%.2f Fahenheit is %.2f Celsuis", t, c);
		}else{
			System.out.println("Invalid input");
		}
	}
}
```

Example: What is the output of the following code?

```
String str1 = “TM105”;
String str2 = “TM251”;
if ( str1.equals(str2) == true){
        System.out.println(“str1 equals str2”);
}else{
        System.out.println(“str1 does not equal str2”);
}
```

Answer:

str1 does not equal str2

جرب الكود بنفسك على برنامج الانتلجي

Example: What is the output of the following code?

```
String str1 = “TM105”;
char c1 = str1.charAt(0);
String str2 = “tm251”;
char c2 = str2.charAt(0);
if ( c1 == c2 ){
        System.out.println(“c1 = c2”);
}else{
        System.out.println(“c1 != c2”);
}
```

Answer:

c1 != c2

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Example:

Write program to read your first name and the first name of your friend. The program prints "OK" if your name equals the name of your friend, otherwise, it prints "Sorry".

```
import java.util.Scanner;
public class Meeting3_Test8 {
	public static void main(String[] args) {
		String mName, fName;
		Scanner s = new Scanner(System.in);
		System.out.print("Enter your name: ");
		mName = s.next();
		System.out.print("Enter your freind name: ");
		fName = s.next();
		if(mName.equals(fName) == true){
			System.out.println("OK");
		}else{
			System.out.println("Sorry");
		}
	}
}
```

Example:

Write a Java program to compute the price of a ticket to a passenger on specific Airways based on the following table:

Class	Price
First Class	KD 300
Economy Class (with meal)	KD 150
Economy Class (without meal)	KD 130

Mid Term 2012

The program reads the class that the passenger wants to travel on:

- If the class is the first class, the program prints the price of the ticket immediately.
- If the class is the economy class, the program asks the passenger if he/she wants a meal on the flight. Then prints the price of the ticket according to the response of the passenger.

```
import java.util.Scanner;
public class Meeting3_Test9 {
   public static void main(String[] args) {
      String class_type, meal;
      int price;
      Scanner s = new Scanner(System.in);
      System.out.print("Enter class type: ");
      class_type = s.next();
      if(class_type.equals("First") == true){
         price = 300;
         System.out.println("Price = " + price);
      }else{
         System.out.print("Enter Yes for meal or No for no meal: ");
         meal = s.next();
         if(meal.equals("Yes") == true){
            price = 150;
            System.out.println("Price = " + price);
         }else{
            price = 130;
            System.out.println("Price = " + price);
         }
      }
   }
}
```

Example: What is the output?

```
int a = 3;

int b = a++ + 5;

System.out.println(“b = ” + b);

System.out.println(“a = ” + a );
```

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Answer:

b = 8
a = 4

Example: What is the output?

```
int a = 3;

int b = a++ + a++ + a++ + 5;

System.out.println(“b = ” + b);

System.out.println(“a = ” + a );
```

جرب الكود بنفسك على برنامج الانتلجي

Answer:

b = 17
a = 6

Example: What is the output?

```
String name = “ahmed”;
int i = 0;
if(name.charAt(i++) == ‘a’){
        System.out.println(“OK”);
}else{
        System.out.println(“Sorry”);
}
System.out.println(“i = ” + i);
```

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Answer:

OK
i = 1

Example: Write program to print your course name 10 times.

```
for( int i = 0; i < 10; i++ ) {
        System.out.println("TM105");
}
```

Tracing code – تتبع الكود

i	i < 10	Output
0	true	TM105
1	true	TM105
2	true	TM105
3	true	TM105
4	true	TM105
5	true	TM105
6	true	TM105
7	true	TM105
8	true	TM105
9	true	TM105
10	false	

Example:

Write a program to read 10 names from user. The program counts how many names start with the letter a.

```
import java.util.Scanner;
public class Meeting3_Test10 {
	public static void main(String[] args) {
		String name = "";
		int count = 0;
		Scanner s = new Scanner(System.in);
		for(int i = 0; i < 10; i++){
			System.out.print("Enter name: ");
			name = s.next();
			if(name.charAt(0) == 'a'){
				count = count + 1;
			}
		}
		System.out.println("Count = " + count);
	}
}
```

Example:

Write a program to read 10 temperatures (real numbers) from user. The program count and prints the number of the positive temperatures, the number of the negative temperatures and the number of zeros temperatures.

```
import java.util.Scanner;
public class Meeting3_Test11 {
	public static void main(String[] args) {
		double temp = 0;
		int countPositive = 0, countNegative = 0, countZeros = 0;
		Scanner s = new Scanner(System.in);
		for (int i = 0; i < 10; i++) {
			System.out.print("Enter the temperatures: ");
			temp = s.nextDouble();
			if(temp > 0){
				countPositive++;
			}else if(temp < 0){
				countNegative++;
			}else{
				countZeros++;
			}
		}
		System.out.println("The number of positive temperatures are: " +
countPositive);
		System.out.println("The number of negative temperatures are: " +
countNegative);
		System.out.println("The number of zeros temperatures are: " +
countZeros);
	}
}
```

Example:

Write a program to read 10 characters from user. The program count and prints the number of the vowel letters.

Note: The vowel letters are: a, i, o, u, y.

```
import java.util.Scanner;
public class Meeting3_Test12 {
	public static void main(String[] args) {
		char c = ' ';
		int count = 0;
		Scanner s = new Scanner(System.in);
		for (int i = 0; i < 10; i++) {
			System.out.print("Enter a character: ");
			c = s.next().charAt(0);
			if(c == 'a' || c == 'i' || c == 'o' || c == 'u' || c == 'y'){
				count++;
			}
		}
		System.out.println("Count = " + count);
	}
}
```

Example:

Write a program to read 10 ages from user. The program counts and prints the number of ages are greater than 18 and less than 40.

```
import java.util.Scanner;
public class Meeting3_Test13 {
	public static void main(String[] args) {
		int age = 0, count = 0;
		Scanner s = new Scanner(System.in);
		for (int i = 0; i < 10; i++) {
			System.out.print("Enter age: ");
			age = s.nextInt();
			if(age > 18 && age < 40){
				count++;
			}
		}
		System.out.println("Count = " + count);
	}
}
```

Example:

Write a program to read 10 ages from user. The program prints the maximum age.

```
import java.util.Scanner;
public class Meeting3_Test14 {
	public static void main(String[] args) {
		int age = 0, max = 0;
		Scanner s = new Scanner(System.in);
		for (int i = 0; i < 10; i++) {
			System.out.print("Enter age: ");
			age = s.nextInt();
			if(age > max){
				max = age;
			}
		}
		System.out.println("Maximum age = " + max);
	}
}
```

Example:

Write a program to read 10 ages from user. The program calculates and prints the total ages.

```
import java.util.Scanner;
public class Meeting3_Test15 {
	public static void main(String[] args) {
		int age = 0, sum = 0;
		Scanner s = new Scanner(System.in);
		for (int i = 0; i < 10; i++) {
			System.out.print("Enter age: ");
			age = s.nextInt();
			sum = sum + age;
		}
		System.out.println("Total ages = " + sum);
	}
}
```

رابط المقطع على اليوتيوب: https://youtu.be/L0Z1qtlno-s

عند وجود أي مشكلة في الوصول إلى المقطع على اليوتيوب يمكنكم التواصل معي على الواتساب