How to Take Input from User

Scanner

The Scanner class of the java.util package is used to read input data from different sources like input streams, users, files, etc. Let's take an example.

Example 1: Read a Line of Text Using Scanner

```java
import java.util.Scanner;

class Main {
  public static void main(String[] args) {

    // creates an object of Scanner
    Scanner input = new Scanner(System.in);

    System.out.print("Enter your name: ");

    // takes input from the keyboard
    String name = input.nextLine();

    // prints the name
    System.out.println("My name is " + name);

    // closes the scanner
    input.close();
  }
}
```

In the above example, notice the line

```
Scanner input = new Scanner(System.in);
```

- Here, we have created an object of Scanner named input.
- The System.in parameter is used to take input from the standard input. It works just like taking inputs from the keyboard.
- We have then used the nextLine() method of the Scanner class to read a line of text from the user.
- input.close() is a command in computer programming that tells a program to stop reading or using a source of input, like a file or a keyboard

Next() And NextLine()

next() reads the next word or token from the input stream (usually separated by spaces).
It does not include spaces as part of the input.
It stops reading as soon as it encounters a space or whitespace character.
Example: If you enter "Hello World" and use next(), it will only read "Hello" as the first token.

nextLine() reads the entire line of text until it encounters a newline character (Enter key).
It includes spaces and any characters up to the Enter key as part of the input.
It reads the entire line, even if it contains spaces or other whitespace characters.
Example: If you enter "Hello World" and use nextLine(), it will read the entire line "Hello World" as one string.

```java
import java.util.Scanner;

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

        System.out.print("Enter a word (using next()): ");
        String word = scanner.next();
        System.out.println("You entered: " + word);

        System.out.print("Enter a sentence (using nextLine()): ");
        String sentence = scanner.nextLine();
        System.out.println("You entered: " + sentence);

        scanner.close();
    }
}
```

Import Scanner Class

As we can see from the above example, we need to import the java.util.Scanner package before we can use the Scanner class.

Example 2: Java Scanner nextInt()

```java
import java.util.Scanner;

class Main {
  public static void main(String[] args) {

    // creates a Scanner object
    Scanner input = new Scanner(System.in);

    System.out.println("Enter an integer: ");

    // reads an int value
    int data1 = input.nextInt();

    System.out.println("Using nextInt(): " + data1);

    input.close();
  }
}
```

Example 3: Java Scanner nextDouble()

```java
import java.util.Scanner;

class Main {
  public static void main(String[] args) {

    // creates an object of Scanner
    Scanner input = new Scanner(System.in);


    // reads the entire line
    double value = input.nextDouble();
    System.out.println("Using nextDouble(): " +
value);
    input.close(); }
 }
```

nextDouble() method scans the next token of the input as a double.

Example 4: Java Scanner nextFLoat()

```java
import java.util.Scanner;

class Main {
  public static void main(String[] args) {

    // creates an object of Scanner
    Scanner input = new Scanner(System.in);


    // reads the entire line
    float value = input.nextFloat();
    System.out.println("Using nextDouble(): " +
value);

    input.close();
  }


 }
```

nextFloat() method scans the next token of the input as a float

Example 5: Java Scanner nextBoolean()

```
import java.util.Scanner;

class Main {
  public static void main(String[] args) {

    // creates an object of Scanner
    Scanner input = new Scanner(System.in);


    // reads the entire line
    boolean value = input.nextBoolean();
    System.out.println("Using nextBoolean(): " +
value);

    input.close(); }
 }
}
```

nextBoolean() method scans the next token of the input into a boolean value.