Essential Computing 1
Scanner

The Scanner class

Get input from the console

Example

```java
import java.util.Scanner;

public class Main {

    public static void main( String[] args ){

        Scanner scanner = new Scanner( System.in );
        System.out.print( "Enter your name: " );
        String name = scanner.nextLine();
        System.out.println( "\nThanks " + name );
    }
}
```

First, **import** Scanner from java.util

```java
import java.util.Scanner;

public class Main {

    public static void main( String[] args ){

        Scanner scanner = new Scanner( System.in );
        System.out.print( "Enter your name: " );
        String name = scanner.nextLine();
        System.out.println( "\nThanks " + name );
    }
}
```

Then, **declare** and instantiate a Scanner object

```java
import java.util.Scanner;

public class Main {

    public static void main( String[] args ){

        Scanner scanner = new Scanner( System.in );
        System.out.print( "Enter your name: " );
        String name = scanner.nextLine();
        System.out.println( "\nThanks " + name );
    }
}
```

Then, **declare** and **instantiate** a Scanner object

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import java.util.Scanner;

public class Main {

    public static void main( String[] args ){

        Scanner scanner = new Scanner( System.in );
        System.out.print( "Enter your name: " );
        String name = scanner.nextLine();
        System.out.println( "\nThanks " + name );
    }
}
```
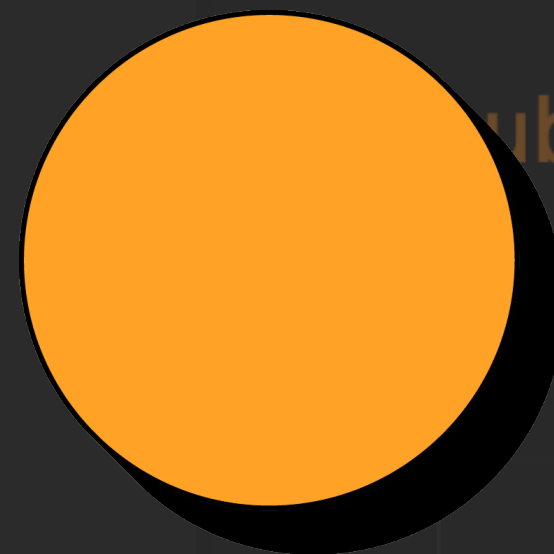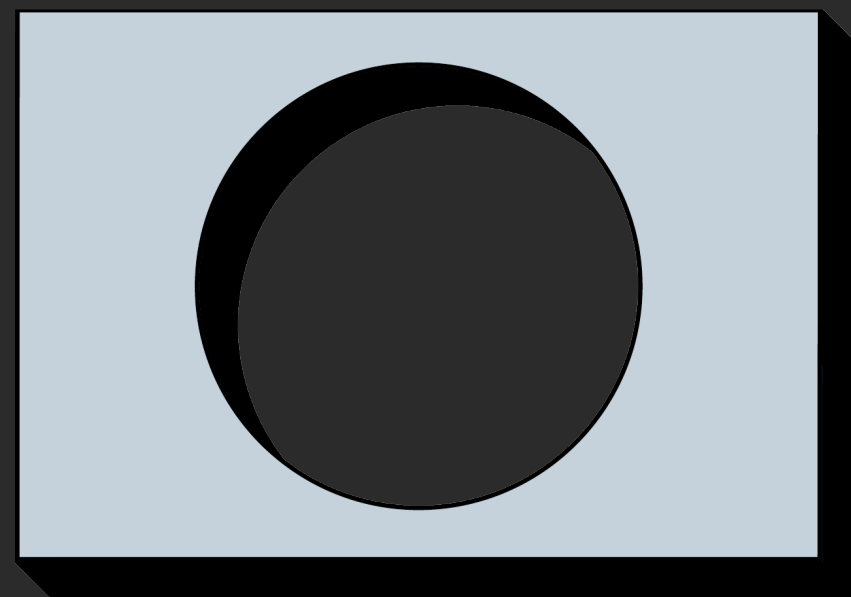
Then, declare and **instantiate** a Scanner object

```java
import java.util.Scanner;

public class Main {

    public static void main( String[] args ){

        Scanner scanner = new Scanner( System.in );
        System.out.print( "Enter your name: " );
        String name = scanner.nextLine();
        System.out.println( "\nThanks " + name );

    }
}
```

Prompt the user for something

```java
import java.util.Scanner;

public class Main {

    public static void main( String[] args ){

        Scanner scanner = new Scanner( System.in );
        System.out.print( "Enter your name: " );
        String name = scanner.nextLine();
        System.out.println( "\nThanks " + name );
    }
}
```

Use **scanner.nextLine()** to read until the user hits return

```java
import java.util.Scanner;

public class Main {

    public static void main( String[] args ){

        Scanner scanner = new Scanner( System.in );
        System.out.print( "Enter your name: " );
        String name = scanner.nextLine();
        System.out.println( "\nThanks " + name );
    }
}
```

Give the user feedback

```java
import java.util.Scanner;

public class Main {

    public static void main( String[] args ){

        Scanner scanner = new Scanner( System.in );
        System.out.print( "Enter your name: " );
        String name = scanner.nextLine();
        System.out.println( "\nThanks " + name );
    }
}
```

More functions for getting other datatypes

```
scanner.next;
```

ⓜ **next**(String pattern)		String
ⓜ **next**(Pattern pattern)		String
ⓜ **nextLine**()		String
ⓜ **nextInt**()		int
ⓜ **nextInt**(int radix)		int
ⓜ **nextDouble**()		double
ⓜ **nextBigDecimal**()		BigDecimal
ⓜ **nextBigInteger**()		BigInteger
ⓜ **nextBigInteger**(int radi…		BigInteger
ⓜ **nextBoolean**()		boolean
ⓜ **nextByte**()		byte
ⓜ **nextByte**(int radix)		byte

^↓ and ^↑ will move caret down and up in the editor Next Tip

Beware! This works

```java
Scanner scanner = new Scanner( System.in );

System.out.print("What is your name? ");
String name = scanner.nextLine();
System.out.print("What is your age? ");
int age = scanner.nextInt();
System.out.printf("Hello %s, age %d\n", name, age);
```

Beware! This works

```java
Scanner scanner = new Scanner( System.in );

System.out.print("What is your name? ");
String name = scanner.nextLine();
System.out.print("What is your age? ");
int age = scanner.nextInt();
System.out.printf("Hello %s, age %d\n", name, age);
```

```
What is your name? Lars
What is your age? 24
Hello Lars, age 24
```

Swap the two and it will fail

```java
Scanner scanner = new Scanner( System.in );

System.out.print("What is your age? ");
int age = scanner.nextInt();
System.out.print("What is your name? ");
String name = scanner.nextLine();
System.out.printf("Hello %s, age %d\n", name, age);
```

After age is entered, it seem to skip scanner.nextLine()

```java
Scanner scanner = new Scanner( System.in );

System.out.print("What is your age? ");
int age = scanner.nextInt();
System.out.print("What is your name? ");
String name = scanner.nextLine();
System.out.printf("Hello %s, age %d\n", name, age);
```

```
What is your age? 12
What is your name? Hello , age 12
```

Scanner **scans** text from the users input, letter by letter.

```java
Scanner scanner = new Scanner( System.in );

System.out.print("What is your age? ");
int age = scanner.nextInt();
System.out.print("What is your name? ");
String name = scanner.nextLine();
System.out.printf("Hello %s, age %d\n", name, age);
```

nextInt() scans digits until next line break **/n**,
excluding the line break.

```java
Scanner scanner = new Scanner( System.in );

System.out.print("What is your age? ");
int age = scanner.nextInt();
System.out.print("What is your name? ");
String name = scanner.nextLine();
System.out.printf("Hello %s, age %d\n", name, age);
```

12\n

Scans this

When nextLine() is called, it then scans a line break
\n and returns happily with nothing.

```java
Scanner scanner = new Scanner( System.in );

System.out.print("What is your age? ");
int age = scanner.nextInt();
System.out.print("What is your name? ");
String name = scanner.nextLine();
System.out.printf("Hello %s, age %d\n", name, age);
```

12\n

Scans this

Make sure to read the new line **\n** after nextInt()

```java
Scanner scanner = new Scanner( System.in );

System.out.print("What is your age? ");
int age = scanner.nextInt();
scanner.nextLine();
System.out.print("What is your name? ");
String name = scanner.nextLine();
System.out.printf("Hello %s, age %d\n", name, age);
```

12\n

Scans this

Make sure to read the new line **\n** after nextInt()

```java
Scanner scanner = new Scanner( System.in );

System.out.print("What is your age? ");
int age = scanner.nextInt();
scanner.nextLine();
System.out.print("What is your name? ");
String name = scanner.nextLine();
System.out.printf("Hello %s, age %d\n", name, age);
```

12\n

Ready for scanning until user hits return