Data Types

Primitive Data Types

Type	Size	Range of values
boolean	1 bit	true, false
char	2 byte	'\u0000' to '\uffff'
byte	1 byte	-128 to 127
short	2 byte	-32,768 to 32,767
int	4 byte	- 2,147,483,648 to 2,147,483,647
long	8 byte	-9,223,372,036,854,775,808 to 9,223,372,036,854,775,807
float	4 byte	32-bit floating point
double	8 byte	64-but floating point

Non-Primitive Data Types

String	It is a sequence of characters
Class	It is a user defined data type from which objects are created
Object	It is an instance of a class representing real-life entities
Interface	It is similar to class but contains abstract methods by default
Array	It holds elements of similar data types

Classes and Objects

```
class Dog {
        String name;
      int age;

      public void info() {
            Sys tem.ou t.p rin t(t his.name + "
is " + this.age + " years old");
      }
}
public class Main {
      public static void main(S tring[] args) {
            // Creating an object from the Dog
class
            Dog myDog = new Dog();
            // Assigning values
            myD og.name = " Tom my";
            myD og.age = 3;
            // calling the method
            myD og.i nfo(); // output: Tommy
is 3 years old
      }
}
```

Comments

Single Line Comment

```
// this is a single line comment
```

Multiline Comment

```
/* This is a multiline comment */
```

Basic Program Structure

```
public class Main {
    public static void main(S tring[] args) {
        Sys tem.ou t.p rin tln ("Hello World");
    }
}
```

Primitive Types

```
public class Main {
        public static void main(S tring[] args) {
                int a = 10;
                 Sys tem.ou t.p rin tln(a); // 10
                 double b = 1021.0121;
                 Sys tem.ou t.p rin tln(b); //
1021.0121
                 float c = 11.001f;
                 Sys tem.ou t.p rin tln(c); //
11.001
                 boolean d = true;
                 Sys tem.ou t.p rin tln(d); // true
                char e = 'P';
                 Sys tem.ou t.p rin tln(e); // P
                 String f = " Lea rning Java";
                 Sys tem.ou t.p rin tln(f); //
Learning Java
        }
}
```

Classes and Object Theory

A class in java is a user-defined data type. It is declared with the `cla ss` keyword. It can have properties and methods.

Here in the example `name` and the `age` is the property and `info()` is the method.