INTRODUCTION TO JAVA

BY: MAEBA VHUTSHILO IN ASSOCIATION WITH UNI.PROGRAMMERS ACADEMY

JAVA SYNTAX { BASIC PROGRAM }

- Figure 1

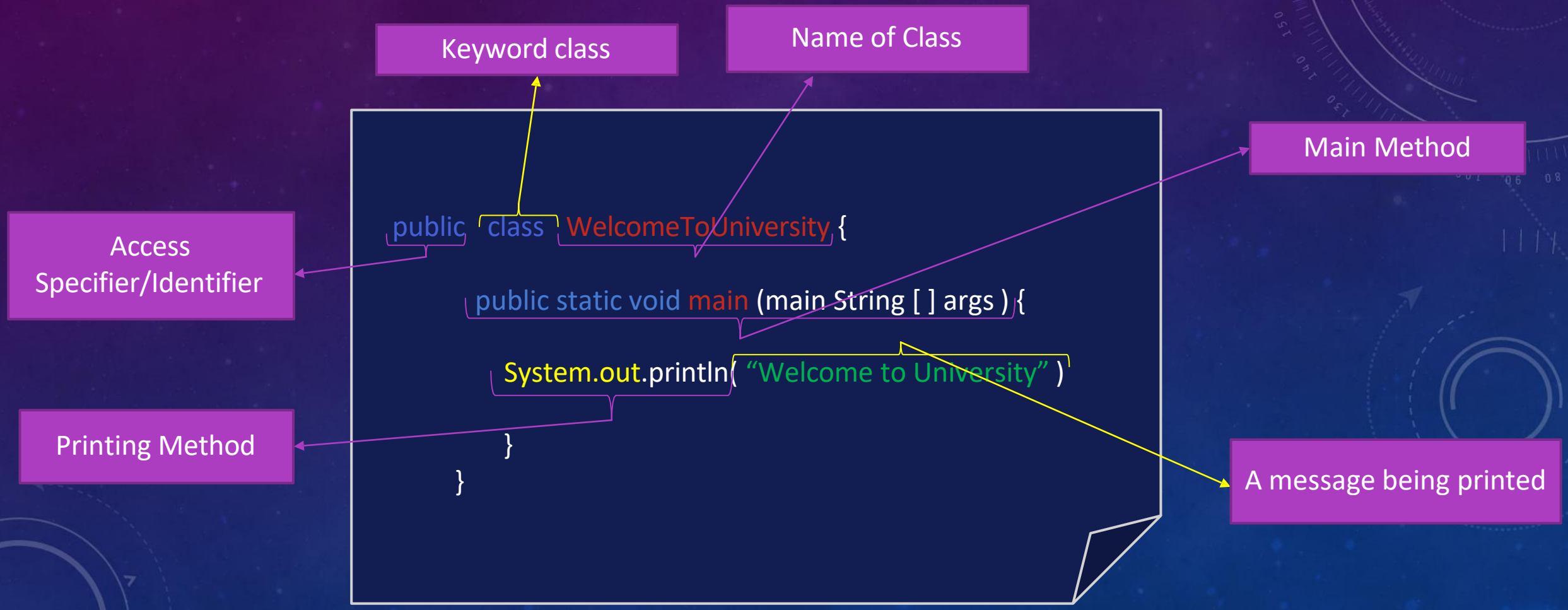
```
public class WelcomeToUniversity {

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

            System.out.println( “Welcome to University” )

            }
    }
```

Output = Welcome to University

- Figure 1 displays a java program which prints “Welcome to University”. Although you have no idea what’s going on take a look on the program and explore it before you move to the next slide.
- The technique we are using will help you understand java programming language basic concepts and build your coding skills at the same time.

By: Maeba Vhutshilo

JAVA SYNTAX { BASIC PROGRAM EXPLAINED }



- Figure 2

By: Maeba Vhutshilo

- # Access Specifier/Identifier

Java access specifiers are keywords that determine the accessibility of classes, methods, and variables in your code. They allow you to control how other parts of your code can interact with a particular class, method, or variable.

-There are four access specifiers in Java:

1. **PUBLIC**: The public access specifier means that the class, method, or variable can be accessed from anywhere in your code, as well as from other packages

2. **PROTECTED**: The private access specifier means that the class, method, or variable can only be accessed from within the same package or by a subclass of the class in a different package. Basically, the code is encrypted.

3. **DEFAULT**: If you don't specify an access specifier, the default access specifier is applied. This means that the class, method, or variable can only be accessed from within the same package.

4. **PRIVATE**: The private access specifier means that the class or method can only be accessed from within the same class, and the variable can only be accessed from within the same class.

In our code in Figure 1 & 2 we used PUBLIC access specifier.

By: Maeba Vhutshilo

- # Class

- In Java, the keyword "class" is used to define a new class, which is a blueprint for creating objects that have specific attributes and behaviors. In simple terms, Class is a blueprint for creating objects with specific attributes and behaviors.

- # Name of a class

- In Java, the name of a class is the identifier that is used to distinguish one class from another. The name of the class is specified after the "class" keyword when defining a new class

- <u>Name of a class should meet Conditions below :</u>

1. The name of the class should be a noun, in mixed case, with the first letter of each word capitalized. For example, "Person“
2. The name of the class should not contain any spaces or special characters, except for the underscore character
3. The name of the class should be unique within the package it belongs to. If two classes with the same name exist in the same package, a compilation error will occur.
4. The name of the class should not be a Java keyword or reserved word, such as "if", "while", "class", or "public", among others.

By: Maeba Vhutshilo

• Main method

In Java, the main method is a special method that serves as the entry point for a Java program. When a Java program is executed, the Java Virtual Machine (JVM) starts by looking for the main method in the specified class and then invokes it

The main method is declared using the following signature:

```
public static void main ( String [ ] args )
```

Lets break it down

PUBLIC : This is an access modifier that specifies that the method can be accessed from outside the class
STATIC : This is a keyword that indicates that the method is a class method and can be called without creating an Object (object is an instance of the class).
VOID : This is a keyword that indicates that the main method does not return any value.
MAIN : This is the name of the method. This name is fixed and cannot be changed
String [ ] args : This is a parameter that represents the command-line arguments passed to the program.

By: Maeba Vhutshilo

• Printing method

- Printing in Java refers to the process of outputting text or other data to the console or a printer.

Below is the signature of java printing method :

```
System.out.println( “Here you write what you want to display from your code” );
```

By: Maeba Vhutshilo

SUM OF TWO NUMBERS CODE:

- Figure 3

```
public class AddNumbers {

        public static void main(String[] args) {

          int num1 = 11;
          int num2 = 22;
          int sum = num1 + num2;

      System.out.println(+ sum);
   }
}
```

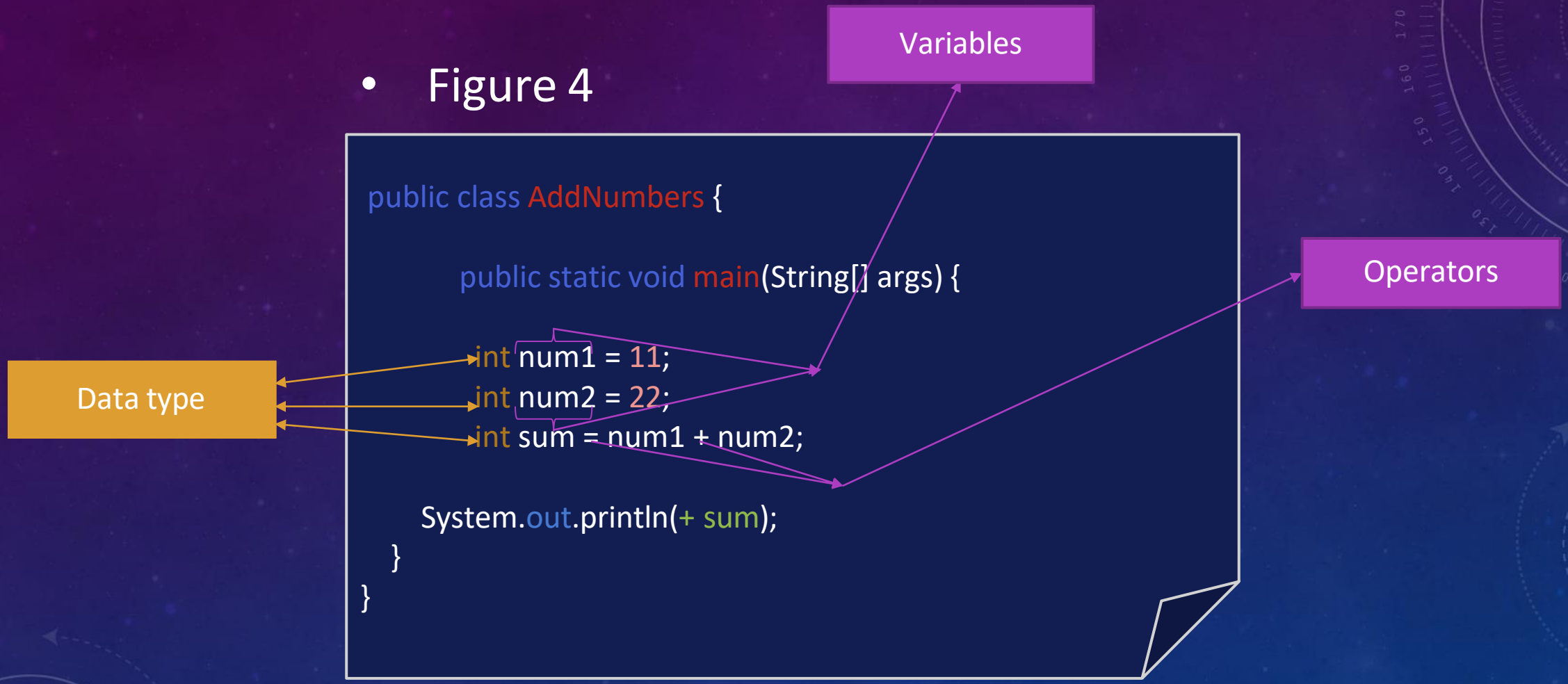
Output = 33

- Figure 3 is a java code which adds two numbers (11 & 22). We added new statements and keywords to the code. We are going to explore every new statement and keywords on the next slide.
- Before you move to the next slide observe the code on figure 3 and try to get the idea of what might be going on.

By: Maeba Vhutshilo

SUM OF TWO NUMBERS CODE (EXPLAINED):

- Figure 4



By: Maeba Vhutshilo