MODULE 8:
INTRODUCTION TO DATA STRUCTURES AND HIGH-LEVEL LANGUAGE PROGRAMMING

For practical tasks, always write your name and surname, group, section and question number at the start of the class as a multi-line comment.

SECTION A: EXPRESSIONS AND DATA TYPES

1. Distinguish between a **Java application** and a **Java applet**.

2. Java has several advantages including **portability**, **robustness** and **object-orientation**. Describe what is meant by these three features of Java.

3. Explain why programmers use a **sandbox**.

4. Explain the **process** of a Java program, from its inception up to execution.

5. What do **API** and **IDE** stand for?

6. Give an example of an **access modifier** and explain its **function**.

7. From where does the **execution point** of a program start?

8. List FIVE examples of **primitive data types** starting from the **smallest** to the **largest**.

9. Look at the following program and answer the questions about it:

```
public class Operators{

    public static void main (String args[]){

        double a = 50.2;

        double b = 40.4;

        double total = a+b*2-a++;

        System.out.println("The answer is " + total);

    }

}
```

   a. Identify TWO **Java keywords**.

   b. What is the **value** of **total** at the end of the program?

10. Explain the difference between **=** and **==**.

11. **Copy** and **complete** the following program. It's output should be an address in the following format:

54, Sunshine

St George's Road

Naxxar NXR4012

Malta

```
public class Operators{

    public static void main (String args[]){

            String houseNumber = "54";

            String houseName = "Sunshine";

            String roadName = "St George's Road";

            String locality = "Naxxar";

            String postcode = "NXR4012";

            String country = "Malta";

    }

}
```

12. Write a program **Lyrics** that displays the following song lyrics by making use of **String literals** for the Maltese specific letters.

Għawdex gżira ta' l-għoljiet

Fik il-paċi fik is-skiet

Art mogħnija bl-isbaħ ġmiel

Kif sawruk jien m'għandix ħjiel.