Q1-

Syntax errors: These errors are detected by the compiler during the compilation process when the code violate the rules of the language

Runtime errors: occur when a program is running and something unexpected happens, causing the program to stop like dividing by zero or to acces more size of fixed size array

Logic errors: occur when the result of the code is wrong but the program successfully runs well error in implementation and design

Q2-

public class Welcome {

public void Main(String[] args) { // should be static void main and main not Main

System.out.println('Welcome to Java!); // should be a “ after !

}

}

Q3-

constructors is to initialize the state of an object ,methods perform actions for the object.

Constructors do not have a return type, methods have a return type, can be any valid data type or void. Constructors must have the same name as the class, methods can have any valid name

Q4-

False

Q5-

The correct statements (lines)

System.out.println(f.i);

f.imethod();

System.out.println(F.s);

F.imethod();

F.smethod();

Q6-

No, you cannot reference an instance variable in static method, because a static method can be invoked without an object, A static method cannot access a class's instance variables and instance methods

Circle c = new Circle(); is placed in the Circle class in the class body itself, is not allowed in Java

,The method2() is calling a method an object named 'c', but 'c' has not been initialized.

Q7-

accessor method: like get and set is a method that retrieves the value of an instance variable of an object.

mutator method: like set is a method that sets the value of an instance variable of an object.

naming conventions :GET and SET

Q8-

Encapsulation helps to ensure data integrity and prevent invalid data from being stored in an object. By controlling access to the object's data fields through accessor and mutator methods and accese modifiers

Q9-

No output

Compilation error