**EDS/MG/2945/09/22**

**IMALI MILDRED MUDEHELI**

**COMP 325**

**ASSIGNMENT**

**SUBMITTED TO DR MERCY GACHOKA**

**1. Explain two types of errors in coding and demonstrate these two errors using visual basic**

a) Syntax errors

* This is a type of error that occurs when a code violates the rules used in the programming language.
* Such an error is detected by the compiler or interpreter.
* When this error occurs, the code will be prevented from being successfully compiled or executed.

Example:

Sub main()

Dim number as integer

Number= "welcome"

In this example, there is a Syntax error since welcome is a string and not an integer . The compiler will therefore catch this error and notify the developer.

b) Runtime errors

* Runtime error is a type of error that occurs when the program is running and happens when a program encounters an unexpected situation that it does not know how to handle.

It can include trying to divide by zero or accessing an array out of bound.

Example:

Sub main()

Dim number as integer=150

Dim divisor as integer=0

Dim results as integer

Results =number/divisor, this is a runtime error because division by zero is not allowed.

**2. Describe three types of debugging and how you can implement the strategies in visual basic**

a) Print(or trace) debugging

* This type of debugging involves inserting print statements into the code so as to output the values of variables and the flow of execution.
* It helps in understanding how the code is executing and where it might be going wrong.

Implementation in VB:

b) Step by step debugging

* This is a type of debugging that allows developers to execute their code line by line using an Integrated Development Environment with debugging tools.
* This helps in closely inspecting the flow of program and the state variable in each step.

Implementation in VB:

c) Exception handling

* Exception handling involves writing code to watch the handle exception or errors that occur during the program execution.
* It helps in preventing the program from crashing .

Implementation in VB: