Task2-Notes

`lambda` :-

We use the `lambda` keyword instead of `def` to create a lambda function.

- `argument(s)` - any value passed to the lambda function
- `expression` - expression is executed and returned

function:-

To execute this lambda function, we need to call it.

A function is a block of code that performs a specific task.

Dividing a complex problem into smaller chunks makes our program easy to understand and reuse.

Types of function

There are two types of function in Python programming:

- **Standard library functions** - These are built-in functions in Python that are available to use.
- **User-defined functions** - We can create our own functions based on our requirements.

Function declaration:-

- `def` - keyword used to declare a function
- `function_name` - any name given to the function
- `arguments` - any value passed to function
- `return` (optional) - returns value from a function

Errors and Exceptions in python

An exception is an unexpected event that occurs during program execution

Errors that occur at runtime (after passing the syntax test) are called **exceptions** or **logical errors**.
For instance, they occur when we

- try to open a file(for reading) that does not exist (`FileNotFoundError`)
- try to divide a number by zero (`ZeroDivisionError`)
- try to import a module that does not exist (`ImportError`) and so on.

Whenever these types of runtime errors occur, Python creates an exception object.

If not handled properly, it prints a traceback to that error along with some details about why that error occurred.

Errors represent conditions such as compilation error, syntax error, error in the logical part of the code, library incompatibility, infinite recursion, etc.
Errors are usually beyond the control of the programmer and we should not try to handle errors.

Exceptions can be caught and handled by the program.

file

A file is a container in computer storage devices used for storing data.

When we want to read from or write to a file, we need to open it first. When we are done, it needs to be closed so that the resources that are tied with the file are freed.

Hence, in Python, a file operation takes place in the following order:

1. Open a file
2. Read or write (perform operation)
3. Close the file

In Python, we use the `open()` method to open files.

To demonstrate how we open files in Python, let's suppose we have a file named `test.txt` with the following content.

After we open a file, we use the `read()` method to read its contents.

When we are done with performing operations on the file, we need to properly close the file.

Closing a file will free up the resources that were tied with the file. It is done using the `close()` method in Python.

import

In Python, you use the **import** keyword to make code in one **module** available in another.