EXPT. NO: 9 DATE :	**WRITE A PROGRAM ON VARIOUS TYPES OF EXCEPTION HANDLING**

AIM:

To write a python program on various types of Exception handling

ALGORITHM:

Step 1: Start

Step 2: Create a function by passing to values for handling try, except ZeroDivisionError, typr error, error, else and finally blocks

Step 3: Create a main function with try block to call the above function for dividing and except block for index error

Step 4: Stop

PROGRAM:

```
def division_example(a, b):
    try:
        result = a / b
        print(f"Result of division: {result}")
    except ZeroDivisionError:
        print("Error: Division by zero is not allowed.")
    except TypeError as e:
        print(f"Error: {e}")
    except Exception as e:
        print(f"An unexpected error occurred: {e}")
    else:
        print("Division operation executed successfully.")
    finally:
        print("This block always gets executed, regardless of exceptions.")

if __name__ == "__main__":
    try:
        # Example 1: Division by zero
        division_example(10, 0)
        # Example 2: Type Error
        division_example(10, "2")
        # Example 3: Index Error
        my_list = [1, 2, 3]
        print(my_list[5])
    except IndexError:
        print("Error: Index out of range.")
```

OUTPUT:

```
Error: Division by zero is not allowed.
This block always gets executed, regardless of exceptions.
Error: unsupported operand type(s) for /: 'int' and 'str'
This block always gets executed, regardless of exceptions.
Error: Index out of range.
```

RESULT:

Thus the program executed and output verified successfully.