```
#1. List down all the error types and check all the errors using a pyhton program
 for all errors.
→ IndexError:-
>>> L1=[1,2,3]
>>> L1[3]
Traceback (most recent call last):
File "<pyshell#18>", line 1, in <module>

L1[3]
IndexError: list index out of range

→ ModuleNotFoundError:-

>>> import notamodule
Traceback (most recent call last):
File "<pyshell#10>", line 1, in <module>

import notamodule
ModuleNotFoundError: No module named 'notamodule'

→ KeyError:-
>>> D1={'1':"aa", '2':"bb", '3':"cc"}
>>> D1['4']
Traceback (most recent call last):
File "<pyshell#15>", line 1, in <module>


D1['4']
KeyError: '4'

→ ImportError:-
>>> from math import cube
Traceback (most recent call last):
File "<pyshell#16>", line 1, in <module>

from math import cube
ImportError: cannot import name 'cube'

→ StopIteration:-
>>> it=iter([1,2,3])
>>> next(it)
1
>>> next(it)
2
>>> next(it)
```

```
3
>>> next(it)
Traceback (most recent call last):
File "<pyshell#23>", line 1, in <module>

next(it)
StopIteration

→ TypeError:-
>>> '2'+2
Traceback (most recent call last):
File "<pyshell#23>", line 1, in <module>

'2'+2
TypeError: must be str, not int

→ ValueError:-
>>> int('xyz')
Traceback (most recent call last):
File "<pyshell#14>", line 1, in <module>
int('xyz')
ValueError: invalid literal for int() with base 10: 'xyz'

→ NameError:-
>>> age
Traceback (most recent call last):
File "<pyshell#6>", line 1, in <module>

age
NameError: name 'age' is not defined

→ ZeroDivisionError:-
>>> x=100/0
Traceback (most recent call last):
File "<pyshell#8>", line 1, in <module>
x=100/0
ZeroDivisionError: division by zero

→ KeyboardInterrupt:-
>>> name=input('enter your name')
enter your name^c
Traceback (most recent call last):
File "<pyshell#9>", line 1, in <module>
name=input('enter your name')
KeyboardInterrupt
```

```python
#2. Design a simple calculator with try and except.
print("Math Operations")
print("1.Addition\n" "2.Sutraction\n" "3.Multiplication\n" "4.Division\n")

while True:
    try:
        num1 = float(input('Enter First number: '))
        break
    except ValueError:
        print('Error! Please enter a valid number.')
op = int(input("Enter Operation No.: "))
while True:
    try:
        num2 = float(input('Enter Second number: '))
        break
    except ValueError:
        print('Error! Please enter a valid number.')

if op == 1:
    print(num1 + num2)
elif op == 2:
    print(num1 - num2)
elif op == 3:
    print(num1 * num2)
elif op == 4:
    print(num1 / num2)
else:
    print("Not a valid math problem!")
```

**Output: -**

```
Math Operations
1.Addition
2.Sutraction
3.Multiplication
4.Division

Enter First number: 15
Enter Operation No.: 2
Enter Second number: hello
Error! Please enter a valid number.
Enter Second number: 10
5.0
```

```
#3. Print one message if the try block raises a NameError and another for other e
rrors.
try:
  print(x)
except NameError:
  print("Variable x is not defined!")
except:
  print("Error! Something went wrong!")
```

**Output: -**

```
Variable x is not defined!
```

```
#4. Try getting an input inside the try catch block.
while True:
    try:
        a=int(input('Enter a number upto 100: '))
        if a > 100:
            raise ValueError(a)
    except ValueError:
        print(f"Error! {a} is out of allowed range,\nPlease try again!")
    else:
        print(a, "is within the allowed range.")
        break
```

**Output: -**

```
Enter a number upto 100: 250
Error! 250 is out of allowed range,
Please try again!
Enter a number upto 100: 99
99 is within the allowed range.
```