

# C10 Exceptions

1. exception is used to catch the error
2. when a program contains an error, it the program will be terminated and display error message so that the program is not able to run continuously
3. by using exception, the program can catch the error but at the same time it will not be terminated

```
def inclusive_range(*args):
    numargs = len(args)
    start = 0
    step = 1

    # initialize parameters
    if numargs < 1:
        #self-define exception by using raise
        raise TypeError(f'expected at least 1 argument, got {numargs}')
    elif numargs == 1:
        stop = args[0]
    elif numargs == 2:
        (start, stop) = args
    elif numargs == 3:
        (start, stop, step) = args
    else: raise TypeError(f'expected at most 3 arguments, got {numargs}')

    # generator
    i = start
    while i <= stop:
        yield i
        i += step

def main():
    #another way to define exception but same with previous one
    try:
        for i in inclusive_range(1,2,3,4):
            print(i, end = ' ', flush = True)
        print()
    except TypeError as e:
        print("Range error: {e}")

if __name__ == '__main__': main()
```