

Exceptions:

- Exceptions are events that can modify the flow of control through a program. They provide a coherent way to respond to unusual events.
- Examples of types of exceptions that can occur:
 1. **FileNotFoundError** – attempt to open a non-existent file to read with 'r' or 'r+' modes.
 2. **ZeroDivisionError** – attempt to divide by 0.
 3. **IndentationError** – incorrect indentation.
- They are processed by these statements:
 1. **try/except** – catch only exceptions raised within the statements in the associated **try** block
 2. **try/finally** – to guarantee termination actions will fire regardless of exceptions in the **try** block's code
 3. **raise** – trigger an exception manually for built-in exceptions
 4. **assert** – used when debugging code. Test if a condition in your code returns True. If not, the program will raise an AssertionError.
 5. **with/as** – allows objects like files to be used to ensure prompt clean-up.
- Most common roles:
 1. Error handling – program can resume execution after **try**.
 2. Event notification – signal valid conditions without having to test them explicitly.
 3. Special-case handling – clean ups code by making the exception handler at a high level to handle rare cases.
 4. Termination actions – **try/finally** allows for a guarantee that closing-time operations will be performed.
 5. Unusual control flows – unwind assignments. A **raise** can be used to jump out of multiple loops.