**ILF Identification Rule**

1. The group of data or control information is logical and user identifiable.
2. The group of data is maintained through an elementary process within the application boundary being counted.

**ILF/EIF DET Counting Rules**

1. Count a DET for each unique user recognizable, non-repeated field maintained in or retrieved from the ILF or EIF through the execution of an elementary process
2. When two applications maintain and/or reference the same ILF/EIF, but each maintains/references separate DETs, count only the DETs being used by each application to size the ILF/EIF.
3. Count a DET for each piece of data required by the user to establish a relationship with another ILF or EIF.

**RET Counting Rule**

1. Count a RET for each optional or mandatory subgroup of the ILF or EIF. (OR)
2. If there are no subgroups, count the ILF or EIF as one RET.

**EIF Identification Rule**

1. The group of data or control information is logical and user identifiable.
2. The group of data is referenced by, and external to, the application being counted.
3. The group of data is not maintained by the application being counted.
4. The group of data is maintained in an ILF of another application.

**Elementary Process Counting Rules**

1. The process is the smallest unit of activity that is meaningful to the user.
2. The process is self-contained and leaves the business of the application in a consistent state.

**Step to FP Counting for Each Elementary Process**

1. Step1: Identify the Elementary Process
2. Step2: Determine the Primary Intent, and classify
3. Step3: Validate against the EI/EQ/EO Counting Rules
4. Setp4: Determine Complexity (Count FTR & Count DET)
5. Setp5: Determine the Contribution

**EI Counting Rule**

1. The data or control information is received from outside the application boundary.
2. At least one ILF is maintained if the data entering the boundary is not control information that alters the behavior of the system.
3. For the identified process, one of the following three statements must apply:
   1. Processing logic is unique from the processing logic performed by other external inputs for the application.
   2. The set of data elements identified is different from the sets identified for other external inputs for the application.
   3. The ILFs or EIFs referenced are different from the files referenced by other external inputs in the application.

**FTR Counting Rules**

1. Count an FTR for each ILF maintained.
2. Count an FTR for each ILF or EIF read during the processing of the external input.
3. Count only one FTR for each ILF that is both maintained and read.

**DET Counting Rules for Elementary Process**

1. Count one DET for each user recognizable, non-repeated field that enters or exits the application boundary and is required to complete the external input.
2. Do not count fields that are retrieved or derived by the system and stored on an ILF during the elementary process if the fields did not cross the application boundary.
3. Count one DET for the capability to send a system response message outside the application boundary to indicate an error occurred during processing, confirm that processing is complete or verify that processing should continue.
4. Count one DET for the ability to specify an action to be taken even if there are multiple methods for invoking the same logical process.

**EO Counting Rule**

1. The function sends data or control information external to the application boundary.
2. For the identified process, one of the following three statements must apply:
   1. Processing logic is unique from the processing logic performed by other external outputs or external inquiries for the application.
   2. The set of data elements identified is different from the sets identified for other external outputs and external inquiries in the application.
   3. The ILFs or EIFs referenced are different from the files referenced by other external outputs and external inquiries in the application.
3. For the identified process, one of the following three statements must apply:
4. The processing logic of the elementary process contains at least one mathematical formula or calculation.
5. The processing logic of the elementary process maintains at least one ILF.
6. The processing logic of the elementary process creates derived data.

**EQ Counting Rule**

1. The function sends data or control information external to the application boundary.
2. For the identified process, one of the following three statements must apply:
   1. Processing logic is unique from the processing logic performed by other external outputs or external inquiries for the application.
   2. The set of data elements identified is different from the sets identified for other external outputs and external inquiries in the application.
   3. The ILFs or EIFs referenced are different from the files referenced by other external outputs and external inquiries in the application.
3. The processing logic of the elementary process retrieves data or control information from an ILF or EIF.
4. The processing logic of the elementary process does not maintain an ILF.
5. The processing logic of the elementary process does not contain a mathematical formula or calculate
6. The processing logic of the elementary process does not create derived data.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ILF & EFI Complexity Matrix | | | |  | EO & EQ Complexity Matrix | | | |  | EI Complexity Matrix | | | | |
| RET | 1-19 | 20-50 | 51+ |  |  | 1-5 | 6-19 | 20+ |  |  | 1-4 | 5-15 | 16+ |
| 1 | L | L | A |  | 0-1 | L | L | A |  | 0-1 | L | L | A |
| 2-5 | L | A | H |  | 2-3 | L | A | H |  | 2 | L | A | H |
| 6+ | A | H | H |  | 4+ | A | H | H |  | 3+ | A | H | H |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **GSC (General System Characteristics)**   1. Data Communications 2. Distributed Data Processing 3. Performance 4. Heavily Used Configuration 5. Transaction Rate 6. Online Data Entry 7. End User Efficiency 8. Online Update 9. Complex Processing 10. Reusability 11. Installation Ease 12. Operational Ease 13. Multiple Sites 14. Facilitate Change | |  |  |  |  | | --- | --- | --- | --- | | Function Point | | | | |  | L | A | H | | EI | 3 | 4 | 6 | | EO | 4 | 5 | 7 | | EQ | 3 | 4 | 6 | | ILF | 7 | 10 | 15 | | EIF | 5 | 7 | 10 | |  |  |  |  | |

# Summary of Processing Logic

|  |  |  |  |
| --- | --- | --- | --- |
|  | EI | EO | EQ |
| Validations are performed | c | c | c |
| Mathematical formula or calculations are performed | c | M\* | X |
| Equivalent values are converted | c | c | c |
| Data is filtered and selected using specified criteria to | c | c | c |
| Conditions are analysed to determine which are applicable | c | c | c |
| At least one ILF is updated | M\* | M\* | X |
| At least one ILF or EIF is referenced (read) | c | c | m |
| Data or control information is retrieved Derived data is created | c | c | m |
| Derived data is created | c | M\* | X |
| Behavior of the system is altered | M\* | M\* | X |
| Prepare and present information outside the boundary | c | m | m |
| Capability to accept data or control information that enters the application boundary | m | c | c |
| Resorting or rearranging a set of data | c | c | c |
|  |  |  |  |
| m it is mandatory that the function type perform the form of processing logic |  |  |  |
| M\* It is mandatory that the function type perform at least one of these (m\*) forms of processing logic | | | |
| c the function can perform the form of processing logic, but it is not mandatory |  |  |  |
| X function cannot perform the form of processing logic |  |  |  |

**DET Counting Hints for EI**

1. The data or control information is received from outside the application boundary.
2. At least one ILF is maintained if the data entering the boundary is not control information that alters the behavior of the system.
3. For the identified process, one of the following three statements must apply:
4. Processing logic is unique from the processing logic performed by other external inputs for the application.
5. The set of data elements identified is different from the sets identified for other external inputs for the application.
6. The ILFs or EIFs referenced are different from the files referenced by other external inputs in theapplication.

**DET Counting Hints for EO**

1. Count a DET for each user recognizable, non-recursive field that appears on the external output.
2. Do not count literal as DETs.
3. Do not count paging variables or system-generated stamps.
4. A logical field that is stored physically as multiple fields, but is required by the user as a single piece of information.
5. Each type of label and each type of numerical equivalent in a graphical output.
6. Text information that may be a single word, sentence, or phrase.
7. For example, a message is included on a report to indicate why a transaction to add a job could not be completed successfully