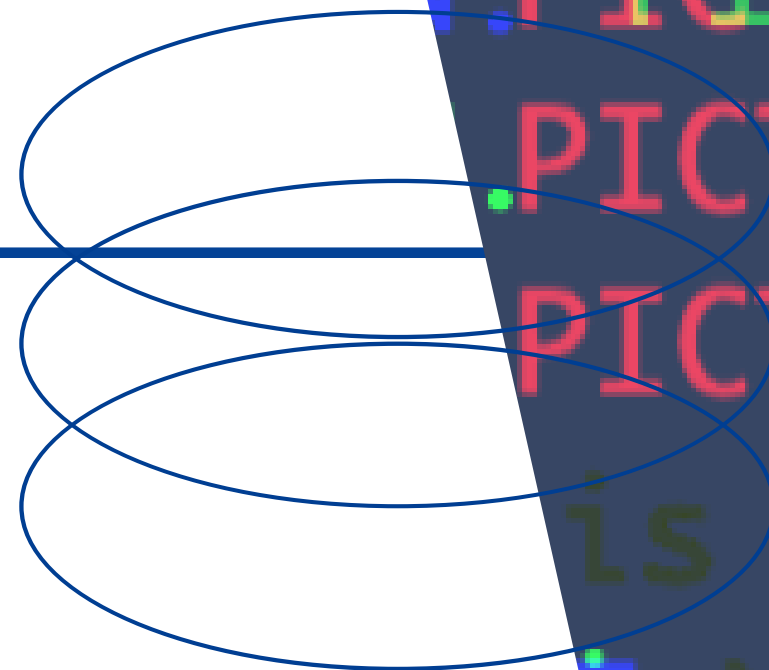


COBOL

Business Logic That Runs the World

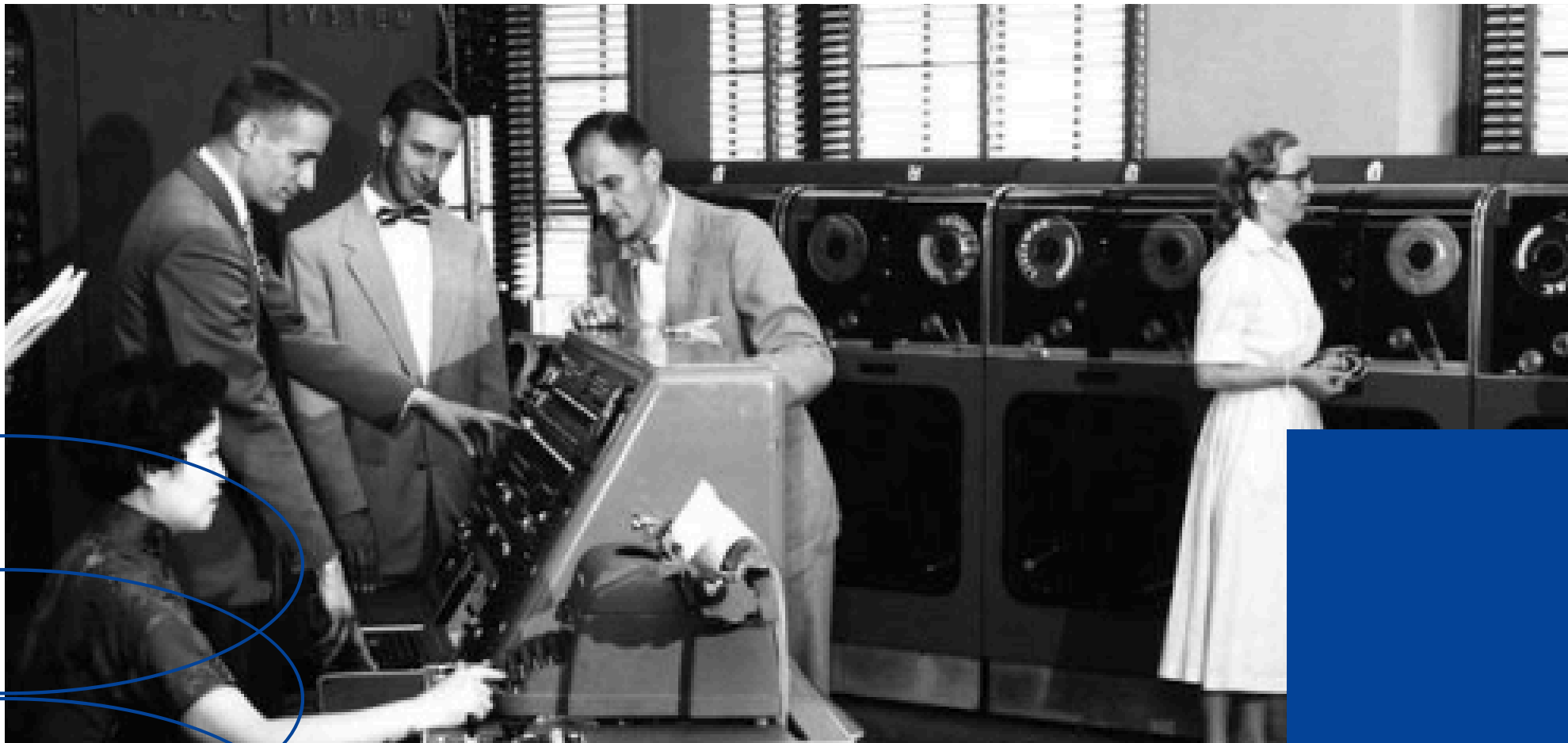
Karen Arteaga Mendoza



ON NUMBERS.
DIVISION ADD NUMBERS.
NUMBERS.
SECTION TURE IS 99.
PICTURE IS 99.
CTION PICTURE IS 9999.
PICTURE IS 9999.
PICTURE IS 99.
PICTURE IS 9999.
is the first Number
is the first Number

→ WHY COBOL?

Fun Fact: COBOL is older than the moon landing!



CODASYL

CREATED IN 1959 TO HELP BUSINESSES
PROCESS DATA

MADE FOR READABILITY, PORTABILITY,
AND LONG-TERM USE

STILL POWERS BANKING, INSURANCE,
AND GOVERNMENT SYSTEMS

IDENTIFICATION
DIVISION

ENVIRONMENT
DIVISION

DATA
DIVISION

PROCEDURE
DIVISION

IDENTIFICATION DIVISION.

PARAGRAPHS

ENTRIES

CLAUSES

ENVIRONMENT DIVISION.

SECTIONS

PARAGRAPHS

ENTRIES

CLAUSES

PHRASES

DATA DIVISION.

SECTIONS

ENTRIES

CLAUSES

PHRASES

PROCEDURE DIVISION.

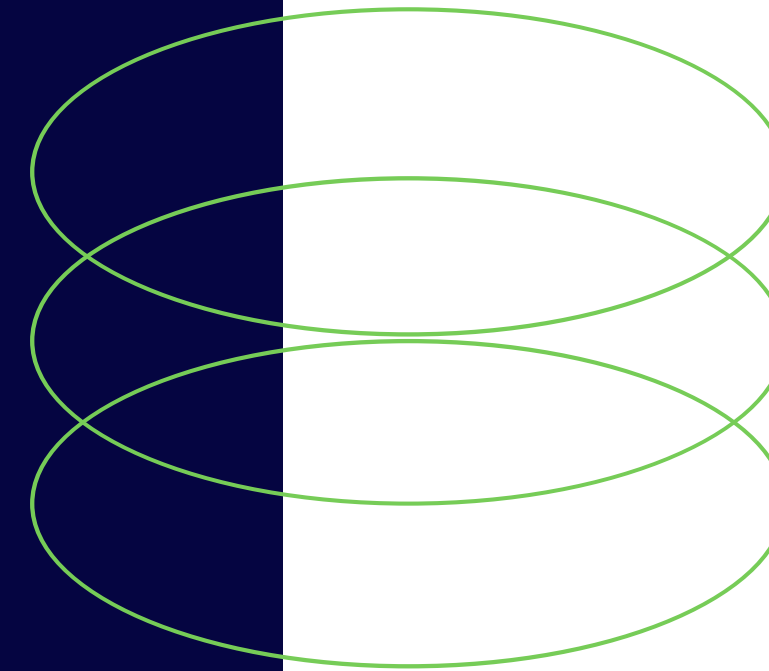
SECTIONS

PARAGRAPHS

SENTENCES

STATEMENTS

PHRASES



COBOL
STRUCTURE

IDENTIFICATION DIVISION

IDENTIFICATION DIVISION.

PROGRAM-ID. YourProgramName.

AUTHOR. Your name.

DATE-WRITTEN. YYYY-MM-DD.

COMMENT. "Description of the program".

Provides metadata: name,
author, date, description

Required paragraph:
PROGRAM-ID.

ENVIRONMENT DIVISION

ENVIRONMENT DIVISION.

CONFIGURATION SECTION.

SOURCE-COMPUTER. IBM-Z-SERIES.

OBJECT-COMPUTER. IBM-Z-SERIES.

INPUT-OUTPUT SECTION.

FILE-CONTROL.

SELECT EMP-FILE ASSIGN TO 'EMPLOYEE.DAT'.

**System configuration
and file assignments**

Key sections:

- CONFIGURATION
- INPUT-OUTPUT

DATA DIVISION

```
DATA DIVISION.  
  WORKING-STORAGE SECTION.  
    01 EMPLOYEE-DETAILS.  
      05 EMP-ID          PIC 9(5) .  
      05 EMP-NAME        PIC X(30).  
      05 EMP-SALARY      PIC 9(7)V99.
```


**All variables and file
records are declared here**

Sections:

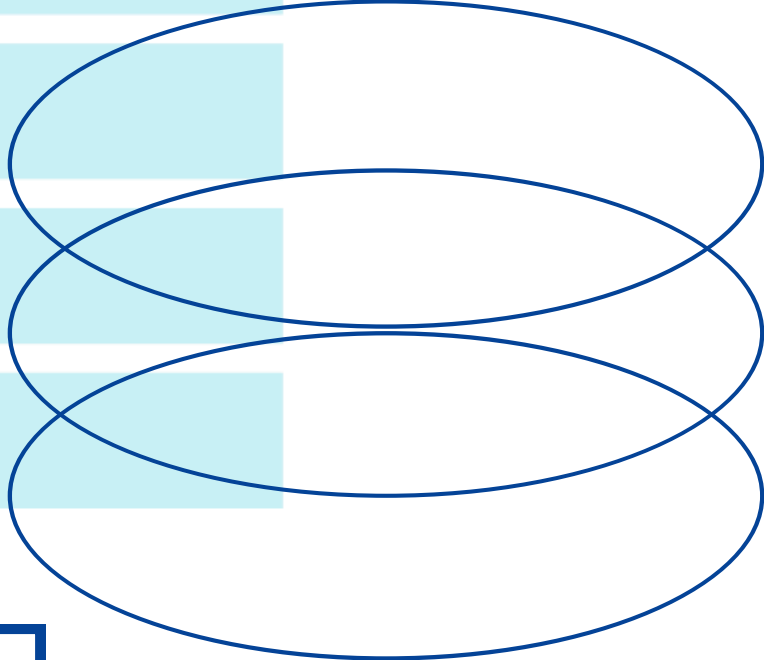
- FILE SECTION
- WORKING-STORAGE SECTION
- LOCAL-STORAGE SECTION
- LINKAGE SECTION

PIC CLAUSE

PIC <Type-Character>(<Size>)



X	Alphanumeric (letters, numbers, symbols)
9	Numeric digits only (0-9)
A	Alphabetic characters (A-Z)
S	Signed numeric (positive/negative)
V	Implied decimal point (only in numbers-9)



Type Character(s): A letter that defines what kind of data the field holds.

Size (inside parentheses): A number that tells how many characters or digits the field can store.

PROCEDURE DIVISION

PROCEDURE DIVISION.

A000-FIRST-PARA.

DISPLAY 'Hello World!'.
MOVE 'Tutorials' TO WS-NAME.

DISPLAY "My name is: "WS-NAME

DISPLAY "My ID is: "WS-ID.

STOP RUN.

**Where the executable
logic goes**

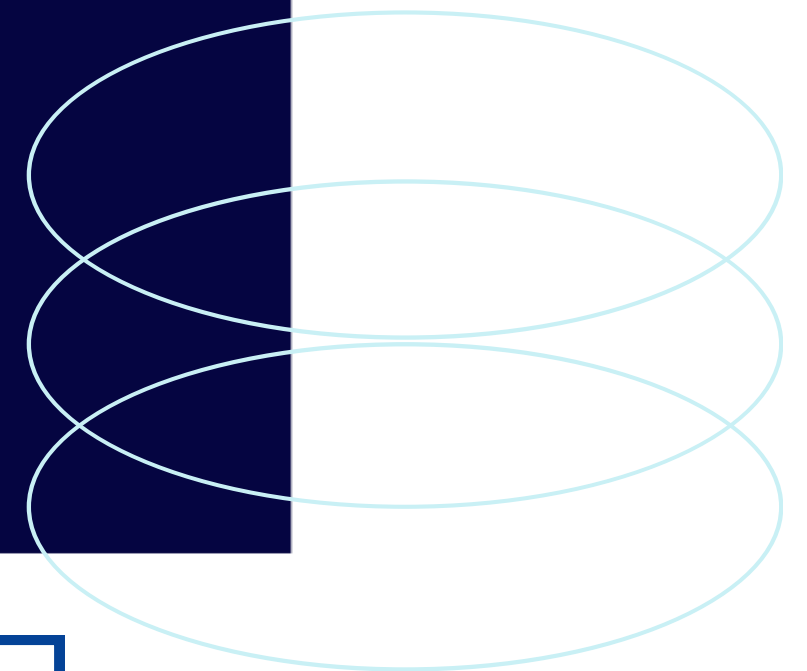
Built with:

Paragraphs → Sentences →
Statements

LOOPS

PERFORM <Paragraph-Name> **UNTIL** <Condition>.

```
WORKING-STORAGE SECTION.  
01 COUNTER      PIC 9(2) VALUE 1.  
  
PROCEDURE DIVISION.  
    PERFORM DISPLAY-NUMBER UNTIL COUNTER > 5.  
    STOP RUN.  
  
DISPLAY-NUMBER.  
    DISPLAY "Counter = " COUNTER.  
    ADD 1 TO COUNTER.
```



Repetition using keywords like **PERFORM**, **UNTIL**, and **VARYING**.

COBOL doesn't have traditional for or while loops like some other languages

ERROR HANDLING

```
IF WS-EMP-STATUS NOT = "00"  
  DISPLAY "Error: " WS-EMP-STATUS.
```

No try-catch: COBOL uses status codes

Keywords: FILE STATUS, AT END, INVALID KEY

"00"	Successful operation
"10"	End of file
"23"	Record not found (indexed)
"35"	File not found
"39"	File mismatch (access mode)
"91"	File already open or locked



Still used in:

- 70% of financial transactions
- Government systems
- Legacy maintenance projects

High demand, low supply of
COBOL developers

WHY LEARN COBOL TODAY?

Fun Fact: COBOL systems can outlive developers



Mastering COBOL Programming

Think like a business analyst

Practice PERFORM, MOVE, and IF

Use meaningful names

FINAL TIPS & MOTIVATION

COBOL isn't dead — it's behind the scenes of modern life

