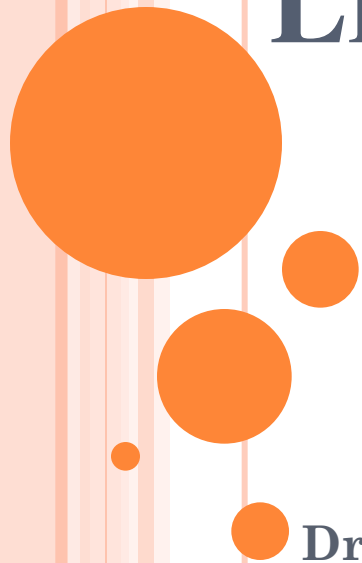


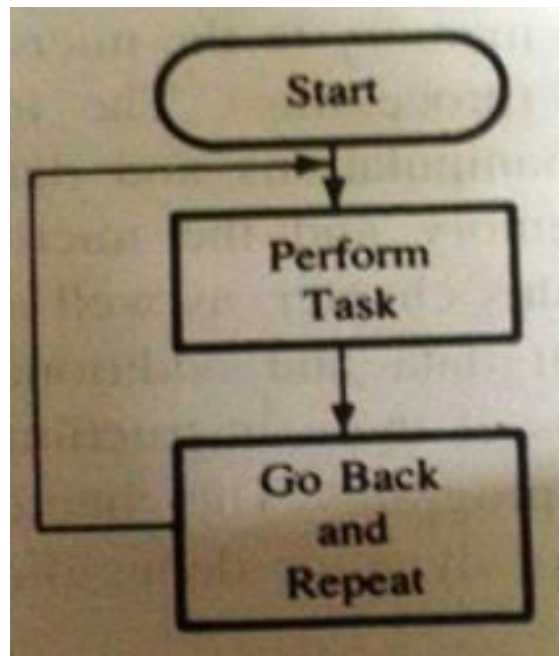
PROGRAMMING TECHNIQUES: LOOPING, COUNTING AND INDEXING LECTURE 7



Dronacharya group of Institutions

LOOPING, COUNTING AND INDEXING

- Continuous loop-repeat task continuously
- Conditional loop-repeats a task until certain data conditions are met.
- **Flowchart of continuous loop**

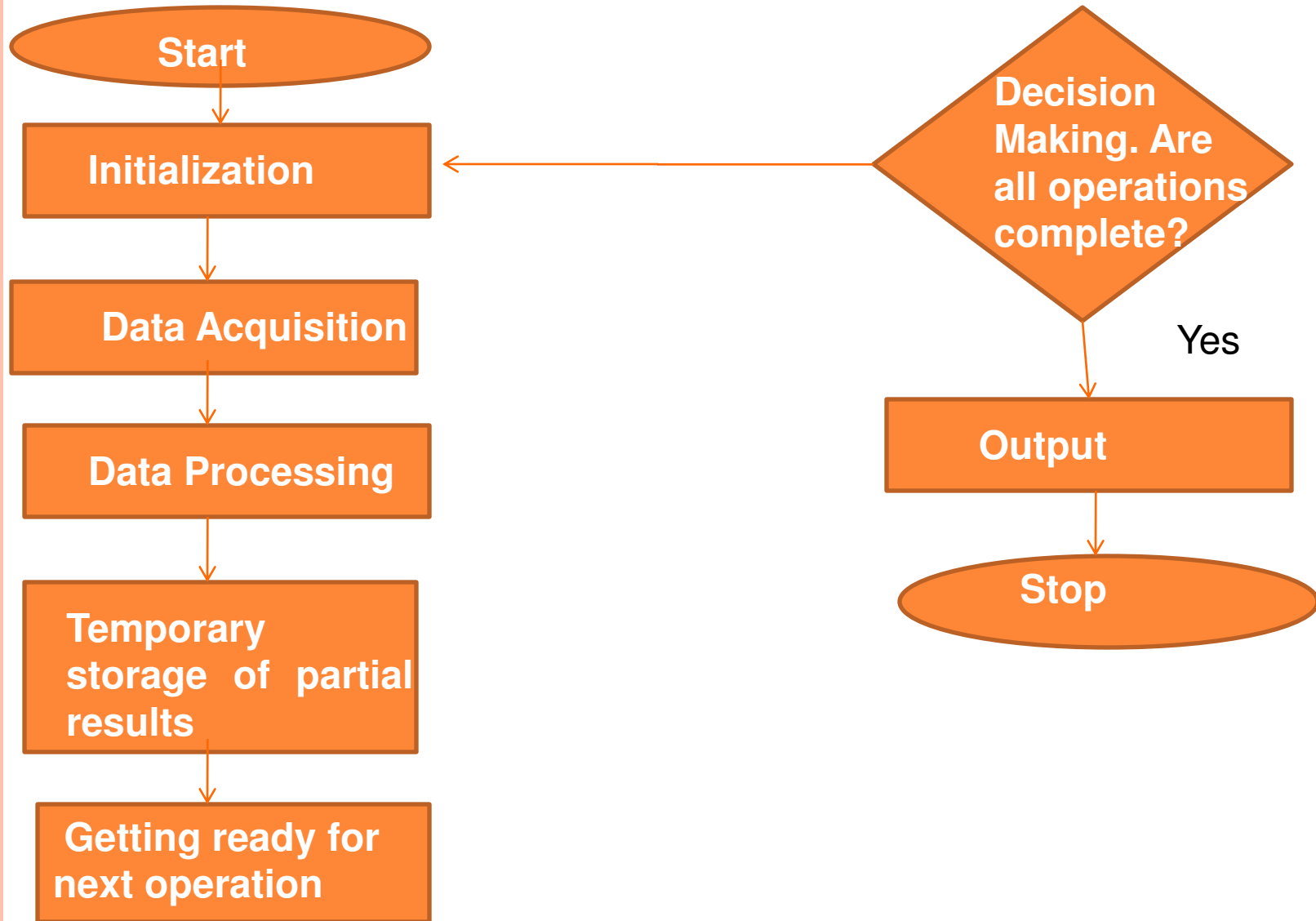


LOOPING, COUNTING AND INDEXING

- **Looping-In** this technique, the program is instructed to execute certain set of instructions repeatedly to execute a particular task number of times.
- **Counting-This** technique allows programmer to count how many times the instruction/set of instructions are executed.
- **Indexing-This** technique allows programmer to point or refer the data stored in sequential memory location one by one.



Generalized programming flowchart



DIVISION OF TWO 8-BIT NUMBERS

```
LDA 2000H ;divisor
MOV B,A
LDA 2001H ;dividend
MVI C, 00H
LOOP: CMP B
      JC BRANCH
      SUB B
      INR C
      JMP LOOP
BRANCH: STA 3000H ;remainder
        MOV A,C
        STA 3001H ;quotient
        HLT
```



ARRANGE DATA ARRAY IN ASCENDING ORDER

H,2000	LXI		MOV B,M
			MOV M,A
	MOV C,M		DCX H
	DCR C		MOV M,B
REPEAT:	MOV D,C		INX H
	LXI	SKIP:	DCR D
H,2001			JNZ LOOP
LOOP:	MOV A,M		DCR C
	INX H		JNZ REPEAT
	CMP M		HLT
	JC SKIP		

