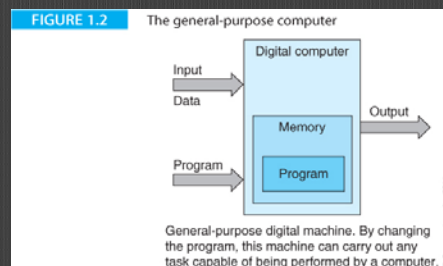


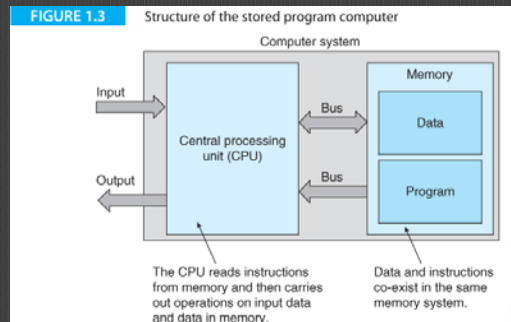
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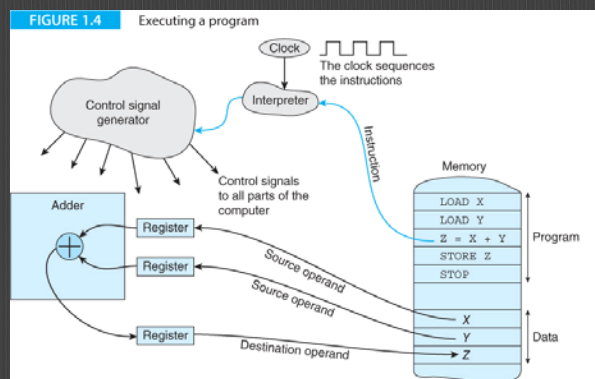
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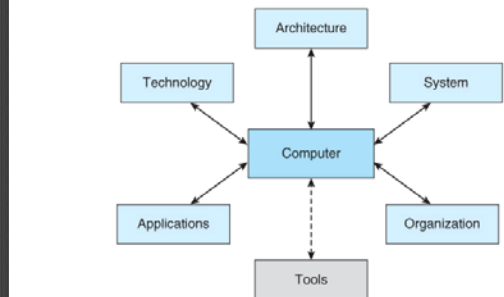
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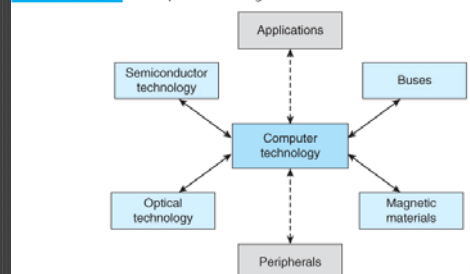
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FIGURE 1.5 Factors affecting the computer designer

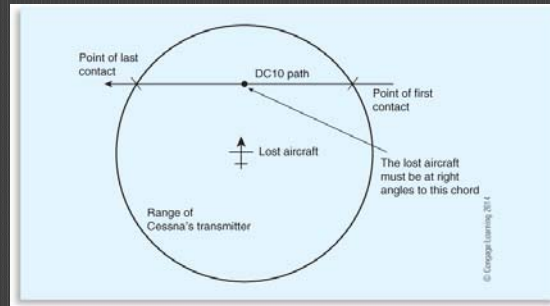
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FIGURE 1.6 Computer technologies

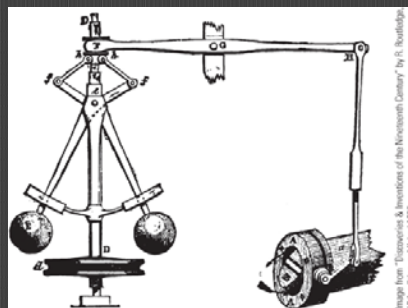
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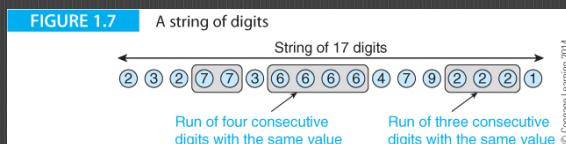
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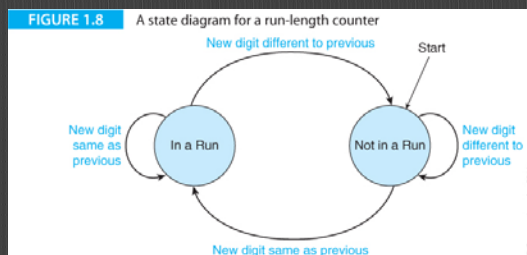
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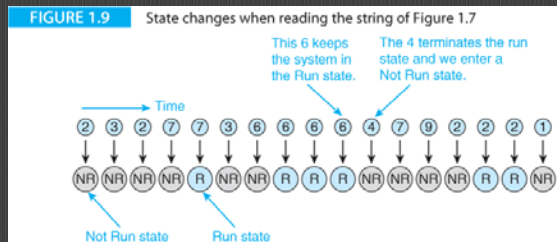
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TABLE 1.1 Turning the String into a Table of Values

Position in String	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Element Value	2	3	2	7	7	3	6	6	6	6	4	7	9	2	2	2	1
Current Run Value	?	2	3	2	7	7	3	6	6	6	6	4	7	9	2	2	2

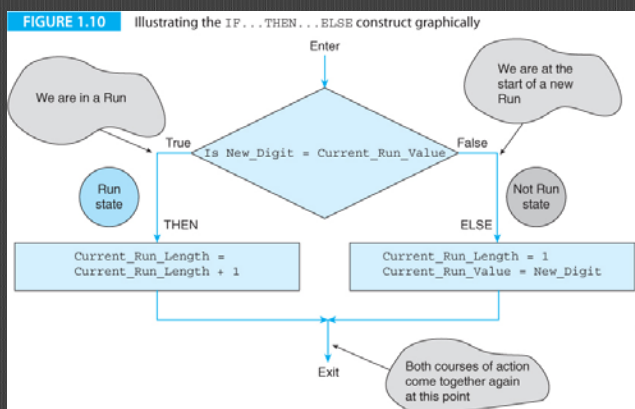
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TABLE 1.2		The Current Run Length at Each Position Along the String of Digits																
Position in String		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Element Value		2	3	2	7	7	3	6	6	6	6	4	7	9	2	2	2	1
Current Run Value		?	2	3	2	7	7	3	6	6	6	6	4	7	9	2	2	2
Current Run Length		1	1	1	1	2	1	1	2	3	4	1	1	1	1	2	3	1

TABLE 1.3		Expanding Table 1.2 to include the Maximum Run Length																
Position in String		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Element Value		2	3	2	7	7	3	6	6	6	6	4	7	9	2	2	2	1
Current Run Value		?	2	3	2	7	7	3	6	6	6	6	4	7	9	2	2	2
Current Run Length		1	1	1	1	2	1	1	2	3	4	1	1	1	1	2	3	1
Maximum Run Length		1	1	1	1	2	2	2	2	3	4	4	4	4	4	4	4	4



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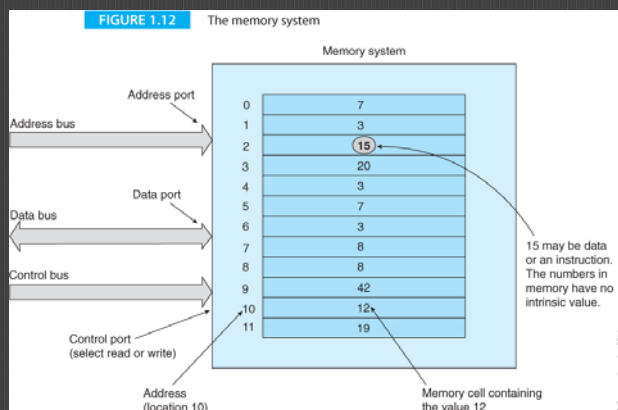
FIGURE 1.11 Memory map of a program and its data

0	i = 21
1	New_Digit = Memory(i)
2	Set Current_Run_Value to New_Digit
3	Set the Current_Run_Length to 1
4	Set the Max_Run to 1
5	REPEAT
6	i = i + 1
7	New_Digit = Memory(i)
8	IF New_Digit = Current_Run_Value
9	THEN Current_Run_Length = Current_Run_Length + 1
10	JUMP to 13
11	ELSE Current_Run_Length = 1;
12	Current_Run_Value = New_Digit
13	IF Current_Run_Length > Max_Run
14	THEN Max_Run = Current_Run_Length
15	UNTIL i = 37
16	Stop
17	New_Digit
18	Current_Run_Value
19	Current_Run_Length
20	Max_Run
21	2 (the first digit in the string)
22	3
23	2
23	7
...	...
37	1 (the last digit in the string)

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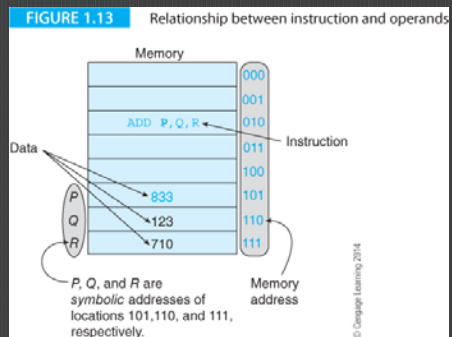
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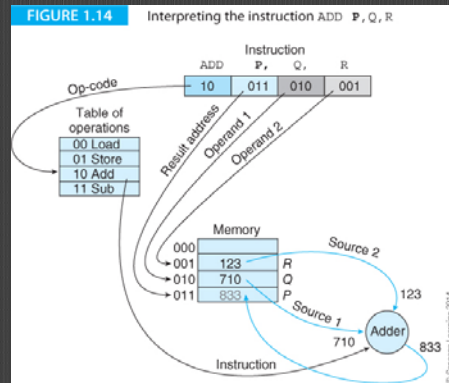
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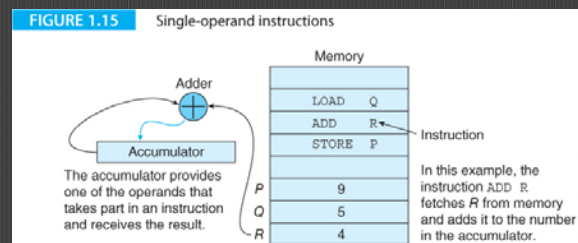
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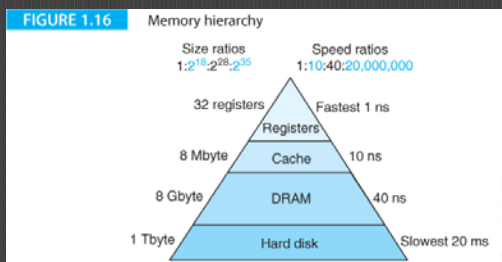
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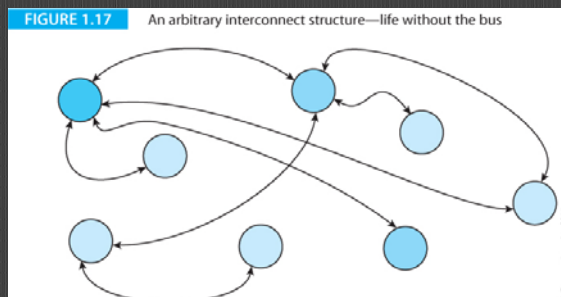
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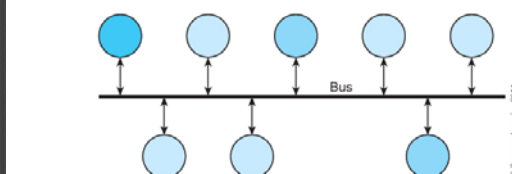
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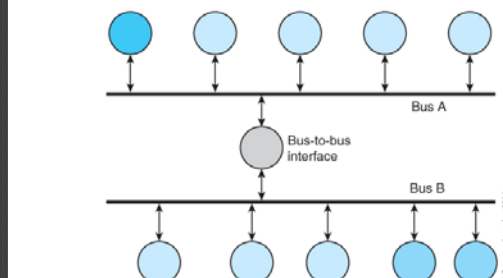
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FIGURE 1.18 A common bus connecting all units

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FIGURE 1.19 A system with two interconnected buses

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