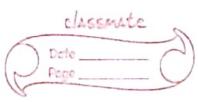
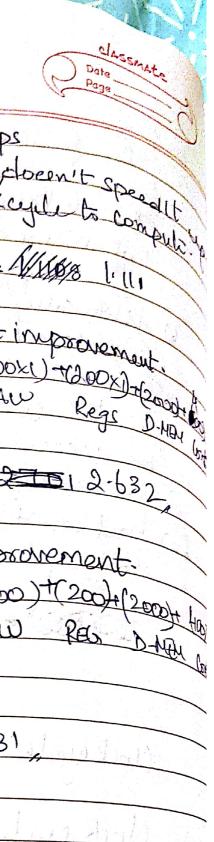
The state of the s COMPUTER ARCHITECTORE A STATE OF THE PARTY OF THE PAR However-11
for (j=0: ix150: i+t) 2 result = monthrough []; nexult= nexult + S1; Elité require Tadders and if each adder require 5 time units:
Total figre required= 7×5= 35 time units 4. Exput 1-0x23-00/000/2-35x0 Exput 2-0x75-01110101-11710. 35 can be written as (25+3) = (25+2+2) 117×35 = (117) × (25+2+2) = 117×25 + 117×2+117 Best wayte multiply there two numbers into Shift 117 by 5 and addit to 117 Shifted by L and add that to 117.



| | The final answer is: (000001111111) = (4091)=0xfff |
|------|---|
| 5. a | The instruction memory book, Register block, and Datamemory block can be used for the metruetron |
| | bacamenory block can be used a the Millimetron |
| 每 | As As As from 16 to 30 bits if required. |
| 1 c) | The justine from 16 to 30 bits if required. |
| | the instauction would require separate read & write control lines, although only one can |
| | be accessed at an instant. |
| () | No additional control blocks- |
| | hoad word is the longest data path, so we will calculate clock cycle for it |
| | 100000) = [num(400ps)+ Add(250pg), + MUx(30ps)+ |
| | AU (120ps) + Pogs (250ps) + MUX(30ps) + AU (120ps) + Pogs (200ps) + D-MEH (550ps) + |
| | Control blocks (90ps) Clock cycle time without improvement = 1440 ps. |
| | Clockcycle time without improvement= 1440 ps. |
| | Clock cycle true after improvement i Clock cycle true before improvement + Alliton time for MUC |
| | Clockcycle time before improvement + Addition |
| | = 14407 400= 1840 ps. |
| | |
| | |



b) Clock time is increased by 400 ps So it slowedown the clock time clockwith speeds Assuming each block takes I clock cycle to compute to compute According to Amdahla law (0.9)+0·1 Cost performance vatio without improvement (1000) + (30x2) + (00x1) Coet/performance = 200/ Who = 2012-632 Costpenformance Ratio with improvement ((000) + (30x2) + (tox2) + (600) + (200)+ (200)+ (1) Performance = 4290/1800 = 2.331 \$sp ,\$sp ,-4 Jal \$a, \$a2,5a2 Ruh ial Confinin / RA MANFAGO.

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