IBM ENGINEERING TRAINING PROGRAM

JULY 19 TO AUGUST 6, 1954

POUGHKEEPSIE, NEW YORK

Class Notes & Exams

Rick Dill

(Scanned by Robert Garner, Oct, 2022)

		IBM	ENGINEERING		TRAINING	PROGRAM	RAM	C	JL	11Y 19 TO	AUGUS	JULY 19 TO AUGUST 6, 1954 POUGHKEEPSIE, NEW YORK	POUGHN	EEPSIE,	NEW YOF	XK	1		
		MONDAY	IAY		TUESDAY	٢	-	1	WEDNESDAY				RS	DAY			FRIDAY	AT	
	TIME	GRAUP GROUP	GROUP GROUP 3 4	GROUP	GROUP C	GROUP 0 3	GROUP 0	GROUP	GROUP 2	GROUP 3	GROUP 4	GROUP	GROUP 2	GROUP 3	GROUP 4	O	GROUP 2	GROUP 3	GROUP 4
	8:30-9:30	OVERALL CO. ORGANIZATION MANUFACTURING	GANIZATION URING	WC	MODERN BUSINESS REQUIREMENTS	BUSINESS IIREMENTS	-	COMPUTER PRINCIPLES RR	() <	STUDY 4 E	026 082 402 EM 2	VOLUT 10M	COMPUTER PRINCIPLES	INCIPL MR	ES A & B	CO RR	COMPUTER PRINCIPLES	RINGIPLES	60 65
EEK	10:30-11:30 11:30-12:35	ENGINEERING	9N	SD		ARD B	B B SN	UD TYPEWRITER	1	026 082 402 EM 2	STUDY 4	8 9r	077 DH 4	402 H	514 AT A 802 H0 A	4 0 2	514 A AT A 802 H0 A	07.7 JG B	0.7.7 DH 4
M Ta	1:12 - 2:17			EM	2:00 PM		8	etinv		ELECTRIC TYPEWRITER	RIC RITER	STUDY 22	STUDY	RL 2	STUDY	WP 2	STUDY	STUDY B	STUDY STUDY
;	2:12-3:17	A 8 8	d IDEAS	200	APO LEA	NUFLES			082 402 EM 2 F	EQUIPMENT RW A	E IENT A	277	077	514 AT A		514 AT A		077	077
	3:12 - 4:17	MODERN	BUSINESS	RR "PIEF	THERCING THE U	M M	CD	026 082	STUDY	COMPUTER	S	00	4	802 H0 A	402	802 H0 A	402	JG B	HO
	4:12-5:12	REQUIF S D	REQUIREMENTS A & B	GA	MOVIE	Y	8	402 EM 2	4	RR	1 23 3	STUDY	STUDY 4	STUDY A	RL 2	STUDY	WP 2	STUDY 2	STUDY 4
	8:00-11:00	COMPUTER PRINCIPLES RR	604 604 LA 2 DH 4	COMPUTER PRINCIPLES RR	A	604 LA 2 D	604 DH 4 R	COMPUTER PRINCIPLES RR	A	604 LA 2	604 DH 4	COMPUTER PRINCIPLES RR	4	604 LA 2	604 DH 4	COMPUTER PRINCIPLES RR	ER PLES A	604 LA 2	604 DH 4
EEK	11:00-12:00	ET STUDY	ruby 2		DY	STUDY 2	STUDY 4	STUDY	7	STUDY 2	STUDY 4	STUDY	DY	STUDY 2	STUDY 4	STU	Ya	STUDY 2	STUDY 4
S ND M	1:00- 4:00	504 604 2 DH 4	COMPUTER	604 LA 2	604 DH 4	COMPUTER PRINCIPLES	A	604 LA 2 D	604 DH 4	COMPUTER PRINCIPLES	PLES A 1	604 LA 2	604 DH 4	COMPUTER PRINCIPLES	rer Ples A	604 LA 2	604 . DH 4	COMPUTER PRINCIPLES	PLESA
	4:00- 5:00	STUDY 4	STUDY A	TUDY 2	UDY 4	STUDY		TUDY 2	STUDY 4	STU	STUDY A	STUDY 2	STUDY 4	STI	STUDY A	STUDY 2	STUDY 4	ST	STUDY A
	00:6-00:8	COMPUTER	PRINCIPLES	3	COMPUTER	PRINCIPLES		00	MPUTER	COMPUTER PRINCIPLES				amind	annua annua			GAS TUBE COUNTER RK B	TUBE ER B
	00:01-00:6		4 8 8	RR		A 8.8	8	RR	~	A B	8	TRANSISTORS	TORS	LB LB	8	TRANS	TRANSISTORS	FERROELECTRIC MATERIALS	CTRIC IALS A
	10:00-11-00			•								٦٢	×	PRINTED WIRING	WIRING	٦٢	A	ELECTROSTATIC	STATIC
EEK	11:00-12:00	TRANSISTORS	CORES EB B	TRANSISTORS JL A	STORS	CORES EB	S S S S S S S S S S S S S S S S S S S	TRANSISTORS JL A	A	EB	GOMES	STUDY A	DY	STUDY B	ρλ	STU A	study A	STORAGE RD	AGE
M OBS	1:00-2:00	STUDY	stubY B	STUDY	DY	STUDY B	Ŋ	STUDY	*	STUDY B	DY	DRUMS	DRUMS & TAPES			GAS TUBE COUNTER RK	NTER		
	2:00-3:00	CORES	TRANSISTORS	CO	CORES	TRANSISTORS	ORS	CORES	ß	TRANSISTORS	ORS	LB	8	TRANSISTORS	rors	FERROELECTRIC DYMATERIALS	ECTRIC RIALS	TRANSISTORS	STORS
	3:00-4:00	EB A	JL B	EB	A	JL	æ	EB	٩	JL	8	PRINTED WIRING	WIRING	JL	8	ELECTROSTATIC STORAGE	STORAGE	٦L	8
	4:00-5:00	STUDY	STUDY	ST	STUDY	STUDY	W	STUDY	DY	STUDY	DY	STUDY	X	STUDY B	DY	RD	A	STUDY B	

Mr. Mayer - moustering of Pk. a- Mair , Mad R.L. Palmer again 10 groups -1 - LP. Hunter - Research 020 - Composen fold r Byron Phelps - Advanced Machine Dev - EDPM Machine . Development Prod. Dev & Release Prod. Eng Costomer Eng. Anna participante services ser - Defense Contract Eng. TE TI group annal sandalat - project High their Compley and M patronand lime -L.P. Hunter To gain knowledge or research to improve or designtor development Solid State Physics Semiconductors Ferrites Blue Sky Work Ferroelectrican Fluorescent moterials The trade of a state much Business Theory group, is a house much us Cooperation with other groups FAM - BRIDE TODIN Working from repearch - Top - and spaper MI MA = Working From machine development working from self Components with ME -· Applications

604 607 650 501 7.02 H.S. Beertlie Advanced Mechine Development Deta Transceiver hand Anderds per minute telegriph in cards per minute telephone 4 channel telephone carrier SAM - Small Accounting Machine Serial Machine Colomn openting fil month 9 card storage etc. Transistor version of SAM - not for production X795 - wooden wheel - 604 with improvements - on rental nom - aquivalent to 650 mag drum (a)c. Check Sorter - read assorted checks Element Appenriter -Single - prints from single element - newer faster & quieter machine Key driven scounting machine - more plexible than small mechanical machines EAM - Bernie Tobin - cord handling - 100, 200, \$ 400 cords per minute ... Magnetic Type - 407 - Ed Rabende. - to work from 702 + 703 to FAM Type project - to improve type techniques -higher speeds... EPPM - linked with Advanced Machine Perelopment

2 Nat Rochester 250 people FDPM -Competition with smaller, fast moving, company Mr Learson - EDPM Task Forregal Job - construction of broge machines. 75 the - commercial 25th scientific alculators. Both prinched cards & Magnetic ladginge nelsett Tape group - Wilt Lusiche (areas - Pasilyons or ted salas Tollatipe - aunschassiferber Type musittande - used with Istargest Imore semples I derives prit bon MAT 701, 704 - Scientificate status - stored program 2- to matic to salaula tors 1949 ENSACIO - England port 3992 1752 alles 1952 port 7.3 1755 Ignated 1955pm = strahnat? loa hend equivilent pas AM albhig Leat fixed point & flooting point numbers ? Con solie any prob 1. you must state problem ling 2. you must be able to state problem? 3 you must be within size & speed range of your machine ORIL 702 Commercial general calculator 702 variable field size machines (no word sizelini 702 very large input output Pacifities Tape 2102 sorting 703 - File meintenine machine - largely a sorter - 2/50 does many accounting machine fens but not Printing, Clarence Percell 9 Not Rechester - Fun group

Project? High John Coombs MOGI 850 people Very high speed brute Porce - uscoum tubes Emphasis on reliability Marginal checking, use of elaborate test procedures Harlan Campbell Enginpering - Dean Release Eng Tech Services Group - Stadtler Electrical Lab - Goetz EAM Prod Fig - Kilcrease Specifications Drafting Blockey Spec Eng E.T Eng Heidt Sadlor Standards Eng MA² Eng O'Farrel Staudt Riddle test 54 3 8:15 12:40 1:30 Stev : +2

7/19 pm 3 Mr John Hannoven - Potent Procedure ML Wood ERAD Ideas then send the idea to ERAD ERAD is blue sky Loren Wood, Kenyon Lab. S.W. Dunwell Modern Briness Requirements Payroll Campber St. Der. Accounting Sales Analysis Inventory Control Production Control Governmental Applications Security 60,000,000 + Social cards giving earnings reports from employers it is possible to locate records within a matter of hours AIL records kept in Baltimore mony machines involved Card File - one or more cards for every indiv History Rie - Social Security Number order Name File - file in order by name Soundex file Runching cards from employers reports Sorter = yields current information collator - combines history & current to yield op to date record meges Verifier checks names & numbers part of coll star

Monual Recording Ventication Sorting Preliminary Processing Accounting Machine Recognizes Groups 2 Accumulate dotals 3 Print Results Punch rerults 2/50 Read Record Logical Operations Comparison. Code Punching balances Arithmetric Eurotions Printing Problems ! Challenge Do poupo Original Recording 1. Mark Sensing 2. Character Sensing 3. Data transceiving devices - automatic 4. Transcribing punched paper tape to car 5. Tape prepared from typewriter 6 7/20 Proposed mignetic type machine with storage tubes Problem - keeping track of all government checks 275,000,000 checks issued/year over 1,000,000 cards /day from 10m walnington plant

7/201

7 -Lister Check No Disbursing Officer Pate Amount 8 of qu Elquier Issued 1. 2. Cashed up to 4 million per day 3. Cleared through banks to Fed. Reserve Bank 1. Accumulate Totals + Disb. officer order 300 pople 2. Sort in check no. order 110 sorting machine \$ 1,500,000 3. Search for Stop Pay Orders 4. Accumulate Disb. Officen total Cards are sent to gen'l accounting 4 office in Washington 1. After 90 days, sort in D.O. # 200 poople Check No. Order 2. Motch for missing numbers (9972 in) 3. Look up smouth of missing checks and marks \$ 1,500,000 Cards 1000 card checks Jec k colla for matched theles un matched checks cards Cards are pencil sensed & punched Manually inserted with checks 4 5 Run through Accounting Madeline, total checked with Do H. 6

Seme procedure with tope Read cards & make tape cards read at 450 cpm arrunulate total c. select cords in error check for either detection or non-detection of pumpti d. serielly number cards (print on cards) and number on tape e. make magnetic that e. mike magnetic tape does not contain selected out checks they come through later 32 colleter at 200 colling =.16" record gap =.75" check length .91" 2400' = 28, 800" 2 # Instead Building machine using 510 chaintersfin de 40 reels of tape / day 1, 200,000 charles 2. Prove magnetic topp 2 accomplate totals checks all human errors b. condense records... to 12 tapes this gives 32 check sequences between gaps. In all proceedures when we utilize 2 tape, we make new topos. This may not be the same 3 Sort on Disb. officer & check no. 1 mechine in 20 hours Con be cut to five hours in near future A Match for stop pay sparch

7/20 5 stop pay Checks EDPM > (interrepts Printer Merge EPPM 594 Vener collect for 90 days & marge look for and list missing 5 6 numbers secondate total of of smounts and rount of checks This job is proposed for the # 703 This is one of the most elementary accounting operations known 703 Simpler than 702 Both use CR storage Toz eses old the 703 uses new Barrier Grid Tubes Two machines Crid to tape \$ 2300 / month #703 \$ 7000 / month total renter \$ 60,000/month present materia uses 600 people new system uses less then los

IBM Lord & EAM Applications Mr Emnet Murphy 4 6 Date G date Nome Birtl hired mardal () Locality Jares (1) Sex Man # 5 3 lept Eduction 1 How much should 1 get g Job Coop (? How much would 1 pay another