TI-88 ALEX OUTLINE

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ALEX PROCEDURE

FUNCTIONS: BASIC DESCIPTION OF FUNCTION (OR FUNCTIONS) TO BE TESTED.

EXAMPLE: STATISTICS FUNCTIONS

PRIMARY KEYS: LIST OF KEYS WHICH ARE USED BY THE FUNCTIONS BEING TESTED.
(DO NOT INCLUDE NUMBER KEYS, EE, FIX, ENG, ETC.)

EXAMPLE: SIGMA+, SIGMA-, SWAP

OP CODES: LIST OF OP CODES WHICH MUST BE INCLUDED IN THE TESTS

EXAMPLE: OP 22-27

TEST PROCEDURE:

1. DESCRIBE THE SPECIFIC TESTS TO BE PERFORMED AND THE EXPECTED RESULTS.
2. INCLUDE TESTS IN DIFFERENT MODES IF APPROPRIATE:
   - A-MANUAL CALCULATE MODE
   - B-PROGRAM RUN MODE
   - C-PROGRAM SINGLE STEP MODE
   - D-EE, ENG, FIX POINT
   - E-IMPLIED MULTIPLY SET
   - F-ANY OTHER APPLICABLE MODE
3. CHECK SPECIFIC ARGUMENTS WHICH ARE MOST LIKELY TO CAUSE PROBLEMS.
   - A-LARGE AND SMALL EXPONENTS
   - B-NEGATIVE VALUES
   - C-VALUES NEAR LIMITS OF THE FUNCTION
4. CHECK ERROR CONDITIONS
   - A-TEST ILLEGAL AS WELL AS LEGAL INPUTS
   - B-TEST NEAR THE ERROR LIMITS TO ASSURE ERRORS OCCUR FOR PROPER INPUTS
   - C-TEST WELL BEYOND ERROR LIMITS (OR TRY VERY ILLOGICAL SEQUENCES SUCH AS TRYING TO PARTITION TO 1,000,000 REGISTERS) TO ASSURE THAT ERRORS ARE PROPERLY HANDLED.

PROBLEMS: LIST ANYTHING WHICH YOU FEEL IS A PROBLEM IN TESTING THIS FUNCTION.

EXAMPLES:

1. A PERIPHERAL WHICH IS NECESSARY FOR THE TEST IS NOT AVAILABLE.
2. THERE IS NOT ENOUGH TIME TO COMPLETE A LENGTHY TEST WHICH YOU FEEL IS NECESSARY TO PROVE OUT THE FUNCTION.
3. THE FUNCTION ONLY WORKS WITH A LIBRARY PROGRAM WHICH IS NOT YET COMPLETE.
4. YOU DO NOT UNDERSTAND ALL THE USES OF THE FUNCTION.

DOCUMENTATION: DURING THE TESTING, KEEP RECORDS OF WHICH TESTS HAVE BEEN PERFORMED AND THE RESULTS. KEEP SEPERATE RECORDS OF ANY TEST WHICH FAILED OR PRODUCED UNEXPECTED RESULTS.

* PROBABLY TWO THIRDS OF YOUR TIME SHOULD BE SPENT IN PREPARING THE TEST PROCEDURE AND THE REMAINING ONE THIRD ON ACTUAL TESTING.

* EACH PERSON WILL BE SPENDING 1-2 WEEKS OF FULL TIME EFFORT ON THIS CHECKOUT. PLEASE SCHEDULE THIS AS YOUR TOP PRIORITY. IF YOU HAVE CONFLICTS WITH OTHER PROJECTS, TALK TO ART HUNTER OR GLEN THORNTON AND WE WILL RESOLVE THE PROBLEM.

TI-88 ALEX PLAN

FUNCTIONS TO BE TESTED	RESPONSIBILITY	
1. PRINTER FUNCTIONS, TRACE, LISTS	BAILEY	1
2. CASSETTE AND I/O, OP 33-36, 42	HUNTER/SANFORD	4
3. MEMORY EXPANSION	FERRIO/LIES	6
4. EMULATOR	FERRIO/JANDER	
5. PROTECTED CROMS	O'GRADY/FERRIO/ACREE	13
6. CROM/CRAM USAGE	GAHL	11
7. USER DEFINED KEYBOARD CROMS	O'GRADY	
8. USER RESPONSE KEYS, OP 4-7	GAHL	
9. PROGRAMMING FUNCTIONS, R/S AND QUE MODES, OP 31, 32, 37-39, 50	MODER	18
10. PROMPTING SEQUENCE	MCDONALD/GAHL	24
11. TIME/ALARM/DATE/BUZZER, OP 30, 44-47	MCDONALD	
12. ERRORS, OP 2	MCDONALD	
13. ARITHMETIC FUNCTIONS, OP 0, 12, 18-20, OP 22-28, 43, DFN OPS.	ACREE	27
14. EE, ENG, AND FIX	ACREE	
15. POWER ON/OFF, CONTINUOUS MEMORY, OP 1	JONES/JANDER	71
16. FLAGS, OP 14, 29	JONES	
17. ALPHA FUNCTIONS, OP 9, 15, 3	FERNANDEZ	78
18. BIT & DIGIT FUNCTIONS, HIER, SELF TESTS, HEX, UNNORMALIZED, OP 10, 16, 21, 41, 43	FERNANDEZ	
19. MEMORY MANIPULATION, OP 3, 11, 40, 48, 49	THORNTON	84
20. EOS	CALDWELL	88
21. LRN MODE, EQN, OP 17, 50	CALDWELL	
22. CONDITIONALS, OP 13, 28	PUCKETT	90

*THE ASSIGNMENT FOR EACH PERSON WILL BE TO DEVELOP A TEST PLAN FOR THEIR FUNCTIONS AND THEN TO SCHEDULE SIMULATOR TIME AND COMPLETE THE TESTS. THE REQUIRED TIME WILL BE 1-2 WEEKS OF EFFORT DEPENDING ON THE FUNCTIONS. THE WORK WILL BE SPREAD OVER THE TIME PERIOD FROM 07/02/80 TO 07/31/80.

*ELAINE ACREE WILL COORDINATE THE TESTING AND EVALUATION OF RESULTS AND MAINTAIN RECORDS OF ERRORS AND FIXES.

SCHEDULE	PLAN	COMPLETION
1. PCC APPROVAL OF PLAN	06/27/80	06/27/80
2. MAKE FUNCTION ASSIGNMENTS	07/02/80	
3. PRELIMINARY TEST PROCEDURES DUE	07/09/80	
4. FINAL REVIEW OF TEST PROCEDURES	07/11/80	
5. ASSIGN SIMULATOR PRIORITIES	07/11/80	
6. COMPLETE ALEX	07/31/80	
7. SHIP TP0532 GPD	07/31/80	

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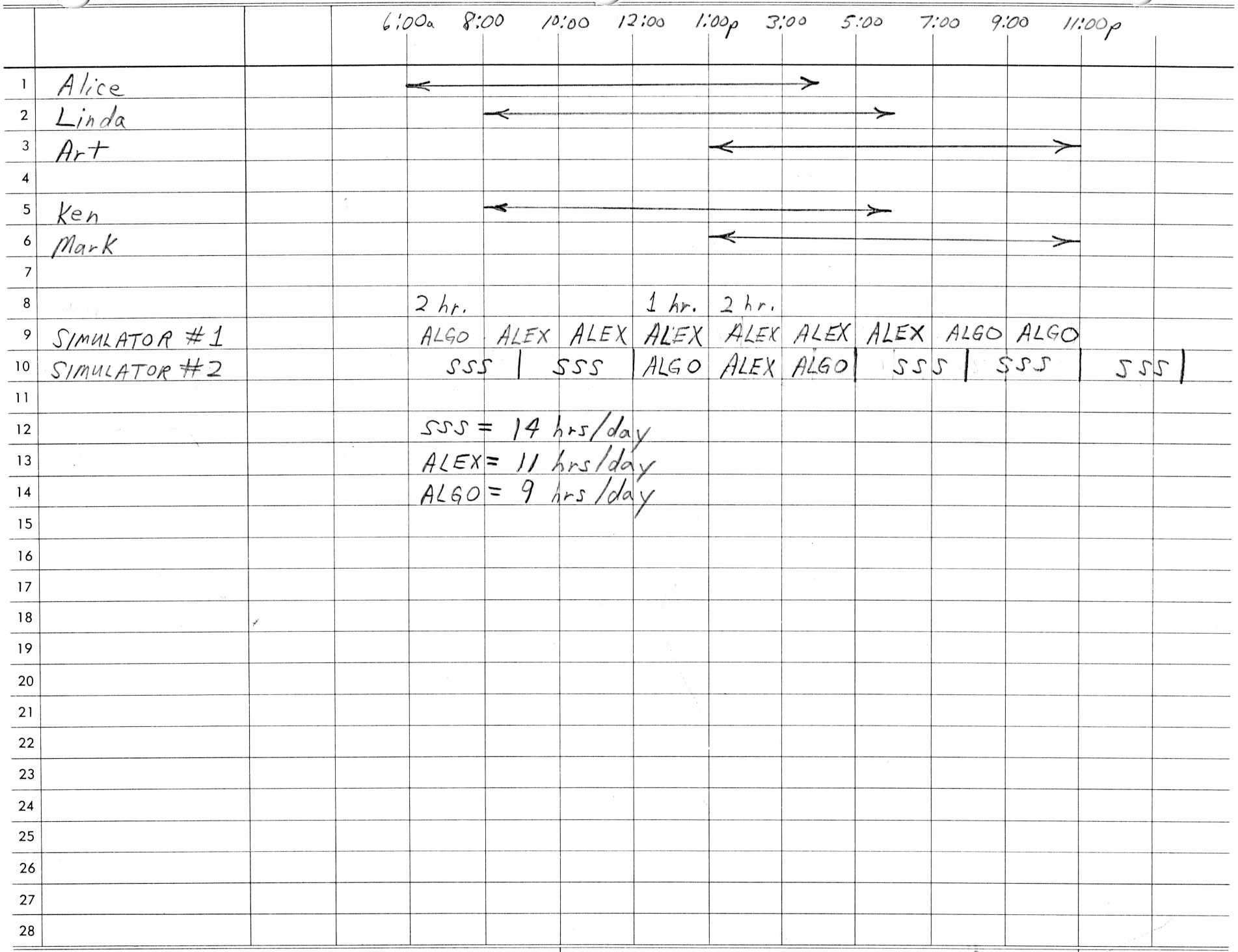
TI-88 ALEX 11/80

ACTION	TIME REQUIRED	RESPONSIBILITY
1. SUSAN'S PRINT TESTS	2 HRS./DAY FOR	SUSAN
TRACE	2 WEEKS	
OP CODES		
IMPLIED MULTIPLY		
EOS		
2. TIME/DATE/PROMPTING	2 HRS./DAY FOR	ELAINE
	1 WEEK	
3. CASSETTE	2 HRS./DAY FOR	ALICE/KOS/ART
	2 WEEKS	
4. MEMORY MANIPULATION		
PROTECTED CROM	2 HRS.	DON/LINDA
PARTITIONING/MEMORIES/PS	10 HRS.	ART
CRAMS/UPLOAD/DOWNLOAD	6 HRS.	ART
ML PROTOS/32 RAM EXPANSION	6 HRS.	KEN/LINDA/MARK
5. ERRORS		
EOS ERRORS	4 HRS.	LINDA
ALL OTHERS	10 HRS.	LINDA
6. STATISTICS		
SIGMA -/TRENDLINE/ETC.	10 HRS.	ELAINE
7. EQN/DFN/LRN/MERGING	6 HRS.	ALICE
8. EOS	6 HRS.	ALICE
9. FREE LANCE	15 HRS.	COMP. DESIGN

SIMULATOR USAGE FOR 10/27/80 - 11/7/80

1. 2 SIMULATORS (8 AM - 6 PM)	HOURS AVAILABLE= 200
2. ALEX CHECKOUT	HOURS NEEDED= 125
3. PROFESSIONAL CALCULATORS	HOURS NEEDED= 40
	HOURS LEFT= 35
4. SSS/MANUAL WRITERS	



OPERATING UNIT:

PREPARED BY:

DATE:

UNIVERSAL PLANNING FORM

TI-9470B

TI-88 ALEX 03/81

ACTION	TIME REQUIRED	RESPONSIBILITY
1. SUSAN'S PRINT TESTS TRACE OP CODES IMPLIED MULTIPLY EOS	2 HRS./DAY FOR 2 WEEKS	SUSAN
2. TIME/DATE/PROMPTING	5 HRS. / WEEK	ART/LINDA/ALICE
3. CASSETTE	6 HRS. / WEEK	ALICE/KOS/ART THOMAS/GAHL
4. PROGRAMMING FUNCTIONS PROTECTED CROM/CRAM EMULATOR SUBROUTINES QUE OR R/S MODE	15 HRS. / WEEK	LINDA/ALICE
5. ERRORS	5 HRS. / WEEK	LINDA/ART/ALICE
6. STATISTICS AND ANGULAR FUNCTIONS SIGMA -/TRENDLINE/ETC. POLAR TO RECTANGULAR OP 30 - OP 45	10 HRS. / WEEK	PCC
7. EQN/DFN/LRN/MERGING	10 HRS. / WEEK	ALICE/LINDA
8. TRACE	5 HRS. / WEEK	ART
9. FREE LANCE	5 HRS. / WEEK	COMP. DESIGN
10. OP 00 - OP 29	10 HRS. / WEEK	LINDA
11. INV OPS	10 HRS.	LINDA
12. OP 46 - OP 55	10 HRS. / WEEK	LINDA/ALICE
13. OP 55 - OP 84	10 HRS. / WEEK	ART

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TI-88 SIMULATOR USAGE

	M		T		W		TH		F	
	I	II	I	II	I	II	I	II	I	II
6:00 AM										
7:00										
8:00	LINDA	SSS	LINDA	SSS	LINDA	SSS	LINDA	SSS	LINDA	SSS
9:00	LINDA	SSS	LINDA	SSS	LINDA	SSS	LINDA	SSS	LINDA	SSS
10:00	ALICE	SSS	ALICE	SSS	ALICE	SSS	ALICE	SSS	ALICE	SSS
11:00	ALICE	SSS	ALICE	SSS	ALICE	SSS	ALICE	SSS	ALICE	SSS
12:00	DARRELL	~~ART~~	BASHIR	~~ART~~	DALE	~~ART~~	BASHIR	~~ART~~	DARRELL	~~ART~~
1:00 PM	JOHNNY	ART	BASHIR	ART	DALE	ART	BASHIR	ART	JOHNNY	ART
2:00	DALE	~~KEITH~~ ART	DALE	~~KEITH~~ ART	DAVID	~~KEITH~~ ART	JOHNNY	~~KEITH~~ ART	DAVID	~~KEITH~~ ART
3:00	DALE	SUSAN	DALE	SUSAN	DAVID	SUSAN	JOHNNY	SUSAN	DAVID	SUSAN
4:00	BASHIR	SUSAN	JOHNNY	SUSAN	DAVID	SUSAN	DARRELL	SUSAN	DAVID	SUSAN
5:00	BASHIR	SUSAN	DARRELL	SUSAN	BASHIR	SUSAN	DARRELL	SUSAN	BASHIR	SUSAN
6:00			DARRELL		BASHIR					
7:00					BASHIR					

FOR FURTHER INFORMATION OR MODIFICATION, CONTACT BASHIR AT EXTENSION 2331.

TI-88 ALEX 05/81

ACTION	TIME REQUIRED	RESPONSIBILITY
1. SUSAN'S PRINT TESTS TRACE OP CODES IMPLIED MULTIPLY EOS	2 HRS. /DAY FOR 1 WEEK	SEAN
2. TIME/DATE/PROMPTING	1 HR. /PERSON	ART/LINDA/ALICE
3. CASSETTE AND I/O	2 HRS. / PERSON	ALICE/KOS/ART D. THOMAS
4. PROGRAMMING FUNCTIONS PROTECTED CROM/CRAM EMULATOR SUBROUTINES QUE OR R/S MODE MODULE FUNCTIONS	4 HRS. / PERSON	LINDA/ALICE D. THOMAS
5. ERRORS	3 HRS.	ART
6. STATISTICS AND ANGULAR FUNCTIONS SIGMA -/TRENDLINE/ETC. POLAR TO RECTANGULAR OP 30 - OP 45	2 HRS. / PERSON	D. THOMAS/ALICE
7. EQN/DFN/LRN/MERGING	2 HRS. / PERSON	ALICE/LINDA
8. TRACE	2 HRS.	ART
9. OP 00 - OP 29	2 HRS.	LINDA
10. INV OPS	2 HRS.	LINDA
11. OP 46 - OP 53	1 HR. / PERSON	LINDA/ALICE
12. OP 54 - OP 83	2 HRS.	ART

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FINAL FINAL ALEX CHECKOUT 05/07/81
REPORT ALL BUGS TO ELAINE ACREE

HOUR	SIMULATOR 1		SIMULATOR 2		
6:00					
7:00					
8:00					
9:00	DAVID THOMAS FRI. 05/08		DAVID THOMAS WED. 05/13		
10:00					
11:00					
12:00					
1:00					
2:00	ALICE		LINDA		
3:00					
4:00	ART				
5:00			ALGO		
6:00					
7:00					
8:00					
9:00					
10:00					
11:00					

TI-88 ALEX SUMMARY

TEST PROCEDURES

THE TEST PROCEDURES WHICH ARE INCLUDED IN SECTION II. WERE WRITTEN IN JULY 1980 AND THE TESTS WERE ORIGINALLY PERFORMED IN JULY AND AUGUST OF 1980. SINCE THAT TIME MOST FUNCTIONS HAVE NOT BEEN CHANGED SIGNIFICANTLY, BUT MANY HAVE BEEN CHANGED AS TO OP CODE NUMBER ASSIGNMENT OR KEYBOARD LAYOUT. THESE SAME PROCEDURES HAVE BEEN USED AGAIN IN OCTOBER 1980 AND MARCH AND APRIL 1981 TO RECONFIRM ALGORITHM CORRECTNESS AFTER CHANGES HAVE BEEN MADE. EACH PROCEDURE IS MARKED WITH THE DATES OF THE LAST TIME THE PROCEDURE WAS TESTED.

ALGORITHM CHANGE HISTORY

RECORDS OF WHEN AND WHAT CHANGES WERE MADE ARE SHOWN IN SECTION IV IN ORDER TO HELP COORDINATE ALEX TEST RESULTS WITH HOW FUNCTIONS WERE DEFINED AT THAT TIME AND IN ORDER TO KNOW WHICH TESTS ARE INVALIDATED BY CHANGES THAT HAVE BEEN MADE IN THE ALGORITHM.
SPECIFIC LISTS OF OP CODE NUMBERS AND KEYBOARD LAYOUTS FOR JULY 1980 AND MARCH 1981 ARE INCLUDED TO HELP CONVERT THE TEST PROCEDURES TO THE PRESENT CALCULATOR DEFINITION.

TEST RESULTS

MOST EXPECTED TEST RESULTS ARE DEFINED WITHIN THE TEST PROCEDURES AND THE ACTUAL TEST RESULTS WERE DETERMINED TO COINCIDE WITH THESE RESULTS UNLESS AN ERROR IS SHOWN IN THE ALGORITHM BUGS LIST (SECTION V.). SOME OF THE PROCEDURES DO NOT INCLUDE THE EXPECTED RESULTS FOR EACH PROBLEM, BUT INCLUDE A LIST OF THE ACTUAL TEST RESULTS. THE ACTUAL TEST RESULTS FOR THE PRINTER AND ARITHMETIC ACCURACY TESTS ARE INCLUDED IN SEPERATE NOTEBOOKS DUE TO THE VOLUME OF THE TESTS. THE ARITHMETIC ACCURACY TESTS INCLUDE A SUMMARY OF THE RESULTS IN THIS NOTEBOOK. THESE ACTUAL RESULTS HAVE BEEN DETERMINED TO BE CORRECT EXCEPT WHERE ERRORS ARE NOTED IN THE BUGS LIST. ALL TESTS WHICH RESULTED IN THE DISCOVERY OF ERRORS WERE REDONE AFTER THE ERROR WAS DOCUMENTED AS BEING FIXED ON THE BUGS LIST.

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