

1032

1032

TAT

FEB. 12, 1958

1959

1	2	3
1	01	0100

10/10/58

1  
1  
1  
1

RUNCIBLE BASIC PACKAGE P 1 Y  
CASE INSTITUTE OF TECHNOLOGY  
FEBRUARY 1959

ASSEMBLED WITH HAND SOAP

STOP

MIX				
OPT	0001	FIX 5	PER	FORMAT
DRU				
EQU	NGOGN	1801		
REG	91827			
EQU	TS009	1861		
EQU	TS004	1875		
EQU	XT001	1894		
EQU	XT003	1786		
EQU	CP017	90010		
BLA	1900	1997	EXPANDED	
REG	81915	1918	CLOCKING	
BLA	1871	1871		
AUP		8003	GO TO TYPE	
BOV	CP017	80005		
LOD	4F	2F	EXTRACT	
STD	NGOGN		ADDRESSES	
RAU	8000		FROM	
SLT	0004		CONSOLE	
SRT	0007		SETTING	
STU	XT001			
RAM	8002			
SLT	0003			
SUP	0017			
STU	90001	NGOGN		
LOD	5F	7F		
STD	CL000	5F		
LOD	8000		TEST FOR	
BD9		OF	STATEMENT	
RAM	XT001			
SLO	0017		STOP	
NZE		9F	ADDRESS 1	
LOD	8000	OF		
BD8		8F		
RAL	90001		ADDRESS 2	
NZE	8F			
LOD	0017	9F		
HLT	0011	8F		
RAM	0005		EXIT TO	
ALO	0017		STATEMENT	
LOD	CL000		IF NOT IN	
BD9		8002	COMPLETE	
STL	CL001	5F	TRACE MODE	
RAL	80001	3F		
LOD	XT001			
STD	90007		DISTRIBUTR	
LOD	NGOGN		STORE	
STD	90005		LOWER	
LOD	OF			
STD	90001			
LOD	TS009		STORE	
STD	90004		UPPER	
LOD	0018		STORE	
STD	90002		STMNT NO	
STU	90003			
PCH	90001	8002		

0001				
0002				
0003				
0004				
0005				
0006				
0007				
0008				
0009				
0010				
0011				
0012				
0013				
0014				
0015				
0016				
0017				
0018	1900	10	1903	8003
0019	1903	47	1836	1919
0020	1915	69	1924	1927
0021	1927	24	1801	1906
0022	1906	60	8000	1913
0023	1913	35	0004	1923
0024	1923	30	0007	1940
0025	1940	21	1894	1947
0026	1947	67	8002	1905
0027	1905	35	0003	1914
0028	1914	11	0017	1871
0029	1871	21	1827	1801
0030	1924	69	1929	1919
0031	1919	24	1925	1929
0032	1929	69	8000	1935
0033	1935	99	1939	1941
0034	1939	67	1894	1949
0035	1949	16	0017	1930
0036	1930	45	1934	1928
0037	1934	69	8000	1941
0038	1941	98	1908	1902
0039	1908	65	1827	1946
0040	1946	45	1902	1977
0041	1977	69	0017	1928
0042	1928	01	0011	1902
0043	1902	67	0005	1910
0044	1910	15	0017	1922
0045	1922	69	1925	1978
0046	1978	99	1984	8002
0047	1984	20	1990	1933
0048	1916	65	1915	1921
0049	1921	69	1894	1926
0050	1926	24	1833	1948
0051	1948	69	1801	1907
0052	1907	24	1831	1937
0053	1937	69	1942	1945
0054	1945	24	1827	1943
0055	1943	69	1861	1964
0056	1964	24	1830	1944
0057	1944	69	0018	1974
0058	1974	24	1828	1911
0059	1911	21	1829	1901
0060	1901	71	1827	8002

0	ALF	FL0		0061	1942	66	7376	0000
80003	LOD		2B	0062	1917	69	1920	1927
	NZE	6F	4B	0063	1920	45	1938	1924
6	RAM	XT001		0064	1938	67	1894	1909
	SLO	0017		0065	1909	16	0017	1971
	NZE	5B		0066	1971	45	1929	1904
	LOD	8F	7B	0067	1904	69	1966	1919
80004	RAL	80003	3B	0068	1918	65	1917	1921
5	LOD	0F		0069	1933	69	1936	1932
	STD	CL002	1F	0070	1932	24	1986	1951
1	STD	90007	4F	0071	1951	24	1833	1993
4	STL	90005		0072	1993	20	1831	1996
	STU	90004		0073	1996	21	1830	1983
	RAL	CL002		0074	1983	65	1986	1954
	LOD	0017		0075	1954	69	0017	1973
	SDA	90002		0076	1973	22	1828	1972
	RAL	90005	CL002	0077	1972	65	1831	1986
0	RAL	CL001		0078	1936	65	1990	1995
	BMI	2F		0079	1995	46	1975	1912
	STD	90003		0080	1912	24	1829	1952
	LOD	0F		0081	1952	69	1955	1963
	STD	90001		0082	1963	24	1827	1957
	PCH	90001		0083	1957	71	1827	1982
	LOD	CL002		0084	1982	69	1986	1992
	SDA	NGOGN		0085	1992	22	1801	1959
	SLT	0004		0086	1959	35	0004	1969
	SDA	CL002		0087	1969	22	1986	1989
	SUP	4F		0088	1989	11	1979	1994
	BMI	9F		0089	1994	46	1962	1931
	SCT	0006	9F	0090	1931	36	0006	1962
9	RSL	7F		0091	1962	66	1965	1970
	LOD	90003		0092	1970	69	1829	1985
	BOV		3F	0093	1985	47	1956	1981
	SDA	TS004	3F	0094	1956	22	1875	1981
3	SIA	XT003	6F	0095	1981	23	1786	1953
6	SRT	0003		0096	1953	30	0003	1961
	SRT	0007		0097	1961	30	0007	1976
	AUP	90004		0098	1976	10	1830	1988
	BMI	8F	9F	0099	1988	46	1966	1967
8	SML	90005	8F	0100	1966	18	1831	1991
9	AML	90005	8F	0101	1967	17	1831	1991
8	LOD	90007	XT003	0102	1991	69	1833	1786
7	00		1B	0103	1965	00	1950	1951
	LOD	NGOGN		0104	1950	69	1801	1960
	STD	CL002	4B	0105	1960	24	1986	1993
2	STD	XT003		0106	1975	24	1786	1997
	RSM	90007		0107	1997	68	1833	1987
	STD	CL001		0108	1987	24	1990	1958
	LOD	1F		0109	1958	69	1968	1980
	SDA	90007	6B	0110	1980	22	1833	1953
1	00	9999	5B	0111	1968	00	9999	1933
4	00	0000	4000	0112	1979	00	0000	4000
0	ALF	COM		0113	1955	63	7674	0000
CL000	09	0000	0000	0114	1925	09	0000	0000
	PAT			0115				
	MIX			0116				
STOP	OPT	0002	FIX 5	0117				
	BLA	1716	1899	0118				
	BLR	1850	1850	0119				
	BLR	1871	1871	0120				

START  
TRACE

THE WORKS

RESTORE  
8002 AND  
BRING IN  
NEXT  
INSTRCTION

PUNCH  
BEFORE  
EXECUTING

TEST  
FOR  
BRANCH

ALTER  
INSTRCTION  
TO RETAIN

PUT MINUS  
ZERO IN  
ACCUM  
RESTORE  
ACCUM WITH  
SIGN OF

INSTRCTION  
FUDGE UP  
DISTRIBUTR  
AND RUN  
FULL SPEED

NONE LEFT  
PER FORMAT

1716

BLR 1876 1877  
 BLR 1888 1888  
 REG P1851 1860  
 REG J1877  
 REG W1878 1886  
 REG 91827 1836  
 BLA 1835 1835  
 SYN TS001 1807  
 SYN TS002 1899  
 SYN TS003 1741  
 SYN TS004 1875  
 SYN TS005 1833  
 SYN TS006 1867  
 SYN TS007 1829  
 SYN TS008 1782  
 SYN TS009 1861  
 SYN TS010 1831  
 SYN TS011 1827  
 SYN TS012 1828  
 SYN XT001 1894  
 SYN XT002 1862  
 SYN XT003 1786  
 SYN E 004 1841  
 SYN E 005 1759  
 SYN E 010 1890  
 SYN E 011 1891  
 SYN E 016 1790  
 SYN E 017 1840  
 SYN E 500 1791  
 SYN E 501 1783  
 SYN ACC 0000  
 SYN CP000 1832  
 SYN CP006 1849  
 SYN CP009 1837  
 SYN CP017 1836  
 SYN AHOHA 1874  
 SYN NGOGN 1801  
 EQU 653 8000  
 CP000 00 0000 0000  
 90008 00 0000 0000  
 3 FLT TO UPR E 004  
 3 PUD 650  
 DUP 004  
 E 004 STD XT001 2E004  
 2E004 NZE 8001  
 2 RAB 0098 2F  
 SLT 0001  
 NZU 1F  
 SRT 0002  
 1 AXB 0001 2B  
 FMP 8006  
 CP070 FMP CP070 XT001  
 10 0000 0062  
 EQU 1E004 E 004  
 EQU 004 8000  
 3 END FLT TO UPR E 004  
 3 FLT TO ACC E 005  
 3 PUD 650

READ BAND  
 TEMP STORE  
 CLOCK BAND  
 TEMP  
 STORAGEES  
 PREDEFINED

STARTING  
 LOCATIONS  
 B  
 PROCESSING

CONSTANTS  
 PREDEFINED

ACCEPT Y

ACCEPT Y

0121  
 0122  
 0123  
 0124  
 0125  
 0126  
 0127  
 0128  
 0129  
 0130  
 0131  
 0132  
 0133  
 0134  
 0135  
 0136  
 0137  
 0138  
 0139  
 0140  
 0141  
 0142  
 0143  
 0144  
 0145  
 0146  
 0147  
 0148  
 0149  
 0150  
 0151  
 0152  
 0153  
 0154  
 0155  
 0156  
 0157  
 0158  
 0159 1832 00 0000 0000  
 0160 1834 - 00 0000 0000  
 0161  
 0162  
 0163  
 0164  
 0165 1841 - 24 1894 1748  
 0166 1748 45 1754 8001  
 0167 1754 82 0098 1765  
 0168 1765 35 0001 1722  
 0169 1722 44 1743 1726  
 0170 1743 30 0002 1753  
 0171 1753 52 0001 1765  
 0172 1726 39 8006 1760  
 0173 1760 39 1716 1894  
 0174 1716 10 0000 0062  
 0175  
 0176  
 0177  
 0178  
 0179  
 0180

```

- E 005 DUP 005
2E005 STD XT002 2E005
      LOD E 004
      STU ACC XT002
      EQU 1E005 E 005 2ND ENT
      EQU 005 8000
3 END FLT TO ACC E 005
3 FLT TO FIX E 500
3 PUD 650 ACCEPT Y

2E500 DUP 500
RAA 3F
3E500 RAB AL002 3E500
4E500 BMI 4E500 1F
1 FAD CP071 2F
2 FSB CP071 2F
  RAC 0058
  UFA 8007
  SXC 8001
  NZC 0000B
  SRT 0002
  STU TS011
  SLT 0002 0000A
3 RAL 8001 XT001
- E 500 STD XT001
  LOD 9F
  STD AHOHA 2E500
1E500 STD XT001 2E500
9 HLT 0500 XT001
CP071 50 0000 0050
  EQU 500 8000
3 END FLT TO FIX E 500
- E 010 HLT 0010 8765
- E 501 HLT 0501 8765
3 LOCATION CALCULATOR LK1
  DUP LK1
LK001 STD TS002
LK002 STL TS009
  SLT 0002
  RAA 8003
  SRT 0006
  AML 0000A
  AUP TS009
  RAA 8002
  EQU LK1
3 END LOCATION CALCULATOR LK1
3 READ E 016
  DUP 016
- E 016 STD XT001 2E016
2E016 RCD 1876
  RAC 0000 1F
1 RAM P0001C
  NZE 9F
  LOD LK001
  LOD P0002C
  STD 0000A
  AXC 0002 1B
  1876 RAM P0001
  RAC 8002
  LOD LK001

```

*Handwritten notes:*

```

LK002
STL 759
SRT 4
RAB 8001
ALO CP 8002
RAA 8002
AUP 759 XT

```

*Handwritten notes:*

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RA 15 800 2000 + BLA W

```

```

0181
0182 1759 - 24 1862 1735
0183 1735 69 1738 1841
0184 1738 21 0000 1862
0185
0186
0187
0188
0189
0190
0191
0192 1727 80 1737 1734
0193 1734 82 1731 1742
0194 1742 46 1745 1746
0195 1745 32 1750 1718
0196 1746 33 1750 1718
0197 1718 88 0058 1717
0198 1717 02 8007 1744
0199 1744 59 8001 1809
0200 1809 48 4000 1815
0201 1815 30 0002 1772
0202 1772 21 1827 1730
0203 1730 35 0002 2000
0204 1737 65 8001 1894
0205 1791 - 24 1894 1798
0206 1798 69 1755 1768
0207 1768 24 1874 1727
0208 1739 24 1894 1727
0209 1755 01 0500 1894
0210 1750 50 0000 0050
0211
0212
0213 1890 - 01 0010 8765
0214 1783 - 01 0501 8765
0215
0216
0217 1796 24 1899 1804
0218 1804 20 1861 1766
0219 1766 35 0002 1723
0220 1723 80 8003 1781
0221 1781 30 0006 1793
0222 1793 17 2000 1758
0223 1758 10 1861 1719
0224 1719 80 8002 1899
0225
0226
0227
0228
0229 1790 - 24 1894 1747
0230 1747 70 1876 1816
0231 1816 88 0000 1794
0232 1794 67 7851 1767
0233 1767 45 1720 1725
0234 1720 69 1775 1796
0235 1775 69 7852 1817
0236 1817 24 2000 1788
0237 1788 58 0002 1794
0238 1876 67 1851 1769
0239 1769 88 8002 1729
0240 1729 69 1733 1796

```

		AXA	0000C	3F	
3		SXA	0001		
		LOD	P0001C		
		STD	0000A		
		SXC	0001		
		NZC	3B	9F	
9		RAL	P0001		
		BMI	XT001	2E016	
		EQU	1E016	E 016	
		EQU	016	8000	
3		END READ	E 016		
3		PUNCH	E 017		
		DUP	017		
-	E 017	STD	XT001	2E017	
	2E017	DIV	CP072		
		STU	TS004		
		NZU	1F		
		SUP	8000		
1		BMI	XT001	1F	
		RAC	8002		
		RSL	CP010		
1		RAB	0006	1F	
		STU	J0002B		
		SXB	0001		
		BMB	4F	1B	
4		STL	J0010	2F	
2		AXB	0001		
		RAL	P0000B		
		SLT	0004		
		ALO	TS004		
		LOD		LK001	
		NZC		9F	
		BMC	5F		
		SXC	0002		
		STU	J0001C		
		LOD	0000A		
		STD	J0002C		
		NZC	2B	0F	
9		RSC	8002		
		SXC	0001		
		RAL	CP014	4B	
5		AXC	8002	6F	
6		RSB	0007		
		STU	J0001		
		RSU	8006	7F	
7		LOD	0000A		
		STD	J0009B		
		AXB	0001		
		AXC	0001		
		BMC		9F	
		AXA	0001		
		NZB	7B	8F	
9		AUP	8006		
		RSU	8003	8F	
8		STU	J0009	0F	
0		PCH	J0001		
		BMC		XT001	
		SLT	0004		
		AUP	J0001	6B	
	CP010	00	8000	0800	

0241	1733	50	6000	1773
0242	1773	51	0001	1784
0243	1784	69	7851	1818
0244	1818	24	2000	1751
0245	1751	59	0001	1770
0246	1770	48	1773	1725
0247	1725	65	1851	1822
0248	1822	46	1894	1747
0249				
0250				
0251				
0252				
0253				
0254	1840	- 24	1894	1797
0255	1797	14	1800	1823
0256	1823	21	1875	1728
0257	1728	44	1795	1732
0258	1732	11	8000	1740
0259	1740	46	1894	1795
0260	1795	88	8002	1752
0261	1752	66	1757	1764
0262	1764	82	0006	1820
0263	1820	21	5878	1843
0264	1843	53	0001	1761
0265	1761	43	1724	1820
0266	1724	20	1886	1789
0267	1789	52	0001	1845
0268	1845	65	5850	1811
0269	1811	35	0004	1819
0270	1819	15	1875	1787
0271	1787	69	1893	1796
0272	1893	48	1805	1803
0273	1805	49	1808	1763
0274	1763	59	0002	1721
0275	1721	21	7877	1838
0276	1838	69	2000	1774
0277	1774	24	7878	1736
0278	1736	48	1789	1792
0279	1803	89	8002	1810
0280	1810	59	0001	1866
0281	1866	65	1869	1724
0282	1808	58	8002	1865
0283	1865	83	0007	1872
0284	1872	21	1877	1780
0285	1780	61	8006	1887
0286	1887	69	2000	1824
0287	1824	24	5885	1842
0288	1842	52	0001	1848
0289	1848	58	0001	1756
0290	1756	49	1868	1813
0291	1868	50	0001	1825
0292	1825	42	1887	1779
0293	1813	10	8006	1771
0294	1771	61	8003	1779
0295	1779	21	1885	1792
0296	1792	71	1877	1814
0297	1814	49	1762	1894
0298	1762	35	0004	1873
0299	1873	10	1877	1865
0300	1757	00	8000	0800

```

CP014 00 8800 0000
CP072 00 0000 5000
EQU 1E017 E 017
EQU 017 8000
3 END PUNCH E 017
3 OVERFLOW SET OV1
OV001 DUP OV1
SCT 0002
SRT 0002 8001 OVERFLOW
EQU OV002 9999 ON
EQU OV1 8000
3 END OVERFLOW SET OV1
3 ALARM AL2
DUP AL2
AL002 RAL CP015 AL00H
AL902 RAL CP015 AL00C
AL802 STD XT002 AL902
CP015 01 0000 0000
EQU AL2 8000
3 END ALARM AL2
3 ALARM ALO
DUP ALO
AL00C LOD ALOOF OV001
AL00H BOV ALOOF ALOOF UNCNDITNAL
AL00F ALO AHOHA
AUP 0017
BOV 1888 8888 AND STOP
1888 RAL NGOGN XT002 NGOGN IS
EQU ALO 8000 ANSWER
3 END ALARM ALO
3 MINIMUM CLOCKING E 011
PUD 650 ACCEPT Y
3
- E 011 STD XT001
STL NGOGN
STU TS009
RAU 0017
AML 8005 ← BOV CP017
STU 0018
SLO 0004
SIA 0017
RAM 8000
SLT 0001
NZU 2F 5F
5 RAM 0005
ALO 0017 8002
2 SUP CP018
BMI CLO03 5B
CP017 10 8011 0080
CP018 00 0000 0005
3 END MIN CLOCKING E 011
1541 BLA 1540 1715 1716
REG 71560 1566
EQU RE7GN 1560
3 NATURAL LOG E 018
3 PUD 650 ACCEPT Y
2E018 DUP 018
BMI AL003
NZU AL003

```

```

0301 1869 00 8800 0000
0302 1800 00 0000 5000
0303
0304
0305
0306
0307
0308 1821 36 0002 1777
0309 1777 30 0002 8001
0310
0311
0312
0313
0314
0315 1731 65 1839 1844
0316 1715 1785 65 1839 1895
0317 1749 24 1862 1785
0318 1839 01 0000 0000
0319
0320
0321
0322
0323 1895 69 1898 1821
0324 1844 47 1898 1898
0325 1898 15 1874 1846
0326 1846 10 0017 1776
0327 1776 47 1888 8888
0328 1888 65 1801 1862
0329
0330
0331
0332
0333
0334 1891 - 24 1894 1847
0335 1847 20 1801 1806
0336 1806 21 1861 1864
0337 1864 60 0017 1826
0338 1826 17 8005 1799 1715 47 1836 1799
0339 1799 21 0018 1896
0340 1896 16 0004 1812
0341 1812 23 0017 1870
0342 1870 67 8000 1778
0343 1778 35 0001 1835
0344 1835 44 1889 1802
0345 1802 67 0005 1863
0346 1863 15 0017 8002
0347 1889 11 1892 1897
0348 1897 46 1900 1802
0349 1836 10 8011 0080
0350 1892 00 0000 0005
0351
0352
0353
0354
0355
0356
0357
0358
0359 1577 46 1548 1582
0360 1582 44 1585 1548

```

SRT	0002	
ALO	CP073	
STL	TS005	
SLO	8001	
SLT	0002	
AUP	CP073	
FAD	CP074	
STU	TS011	
FSB	CP075	
FDV	TS011	
STU	TS007	
FAD	8001	
STU	TS004	
RAU	TS005	
FSB	CP076	
FMP	CP077	
FAD	CP078	
STU	TS006	
RSU	TS007	
RAA	XT001	AT001
STD	XT001	
LOD	9F	
STD	AHOHA	2E018
STD	X T001	2E018
HLT	0018	X T001
CP073	00	0000
CP074	30	0000
CP075	60	0000
CP076	51	0000
CP077	23	0258
CP078	10	9861
3	ARCTAN	SERIES
AT001	DUP	AT1
	FMP	8001
	STU	TS002
	FMP	CP079
	FAD	CP080
	FMP	TS002
	FAD	CP081
	FMP	TS002
	FAD	CP082
	STU	TS005
	RAU	TS002
	FMP	CP083
	FAD	CP084
	FMP	TS002
	FAD	CP085
	FMP	TS002
	FAD	CP082
	FDV	TS005
	FMP	TS004
	FAD	TS006
CP079	81	5850
CP080	73	4265
CP081	16	1538
CP082	99	9999
CP083	17	0496
CP084	39	5804
CP085	12	8205
	EQU	AT1
		0000A
		8249
		7350
		4651
		9950
		1749
		2050
		1351
		8000

0361	1585	30	0002	1542
0362	1542	15	1552	1613
0363	1613	20	1833	1586
0364	1586	16	8001	1543
0365	1543	35	0002	1549
0366	1549	10	1552	1558
0367	1558	32	1611	1599
0368	1599	21	1827	1580
0369	1580	33	1584	1576
0370	1576	34	1827	1634
0371	1634	21	1829	1559
0372	1559	32	8001	1551
0373	1551	21	1875	1578
0374	1578	60	1833	1589
0375	1589	33	1592	1602
0376	1602	39	1555	1571
0377	1571	32	1556	1546
0378	1546	21	1867	1574
0379	1574	61	1829	1583
0380	1583	80	1894	1588
0381	1541	24	1894	1601
0382	1601	69	1605	1610
0383	1610	24	1874	1577
0384	1591	24	1894	1577
0385	1605	01	0018	1894
0386	1552	00	0000	0052
0387	1611	30	0000	0052
0388	1584	60	0000	0052
0389	1592	51	0000	0052
0390	1555	23	0258	5151
0391	1556	10	9861	2251
0392				
0393				
0394	1588	39	8001	1545
0395	1545	21	1899	1652
0396	1652	39	1655	1572
0397	1572	32	1663	1553
0398	1553	39	1899	1606
0399	1606	32	1614	1642
0400	1642	39	1899	1540
0401	1540	32	1612	1573
0402	1573	21	1833	1595
0403	1595	60	1899	1603
0404	1603	39	1660	1554
0405	1554	32	1616	1557
0406	1557	39	1899	1544
0407	1544	32	1623	1569
0408	1569	39	1899	1624
0409	1624	32	1612	1550
0410	1550	34	1833	1705
0411	1705	39	1875	1593
0412	1593	32	1867	2000
0413	1655	81	5850	8249
0414	1663	73	4265	7350
0415	1614	16	1538	4651
0416	1612	99	9999	9950
0417	1660	17	0496	1749
0418	1616	39	5804	2050
0419	1623	12	8205	1351
0420				



```

3      END ARCTAN SERIES      AT1
      EQU ELN      E 018
      EQU      018      8000
3      END NATURAL LOG      E 018
3      EXPONENTIAL E      E 019
      PUD 650      ACCEPT Y
3
- E 019 DUP      019
      STD XT002
      LOD 9F
      STD AHOHA      2E 019
1E 019 STD XT002      2E 019
2E 019 FMP CP086      2E 002
9      HLT      0019      XT002
CP086 43      4294      4850
      EQU EEXP      E 019
      EQU      019      8000
3      END EXPONENTIAL E      E 019
3      EXPONENTIAL 10      E 002
      PUD 650
3
      DUP RE7GN
3
2E 002 DUP      002
      STU TS005
      FSB CP087
      BMI      AL002
      FAD CP087
      NZU      1F
      FAD CP076
      BMI 4F
      RAU TS005
      BMI      2F
      RAB      3F
      FDV      8003
      FDV      8001      XT002
4      STL NG0GN      AL901
1      RAU TS005
      FDV CP086
      FAD 70007      XT002
2      RSU      8003
      RAB XT002      3F
3      RAA      4E500
      FAD      8002
      FAM TS005
      RSA      0006
      STU TS001
      RAU CP088      1F
1      FMP TS001
      FAD 70007 A
      NZA      1F
      AXA      0001      1B
1      FMP      8003
- E 002 SUP TS011      0000B
      STD XT002
      LOD 9F
      STD AHOHA      2E 002
1E 002 STD XT002      2E 002
9      HLT      0002      XT002
CP076 51      0000      0052

```

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0421
0422
0423
0424
0425
0426
0427
0428
0429      1609 - 24 1862 1615
0430      1615      69 1568 1621
0431      1621      24 1874 1628
0432      1659      24 1862 1628
0433      1628      39 1590 1627
0434      1568      01 0019 1862
0435      1590      43 4294 4850
0436
0437
0438
0439
0440
0441
0442
0443
0444
0445      1627      21 1833 1636
0446      1636      33 1639 1641
0447      1641      46 1607 1731
0448      1607      32 1639 1570
0449      1570      44 1635 1630
0450      1635      32 1592 1575
0451      1575      46 1547 1677
0452      1677      60 1833 1587
0453      1587      46 1640 1691
0454      1640      82 1665 1600      1841
0455      1665      34 8003 1650
0456      1650      34 8001 1862
0457      1547      20 1801 1626
0458      1630      60 1833 1637
0459      1637      34 1590 1597
0460      1597      32 1566 1862
0461      1691      61 8003 1649
0462      1649      82 1862 1600
0463      1600      80 1689 1745
0464      1689      32 8002 1653
0465      1653      37 1833 1656
0466      1656      81 0006 1598
0467      1598      21 1807 1661
0468      1661      60 1620 1651
0469      1651      39 1807 1619
0470      1619      32 3566 1622
0471      1622      40 1645 1579
0472      1645      50 0001 1651
0473      1579      39 8003 1672
0474      1672      11 1827 4000
0475      1608      24 1862 1715
0476      1715      69 1618 1671
0477      1671      24 1874 1627
0478      1658      24 1862 1627
0479      1618      01 0002 1862
0480      1592      51 0000 0052

```

1841

1665

CP086 43 4294 4850  
 CP087 49 0000 0052  
 CP088 93 2642 6747  
 70001 25 5491 8048  
 70002 17 4211 2049  
 70003 72 9517 3749  
 70004 25 4393 5750  
 70005 66 2730 8850  
 70006 11 5129 2851  
 70007 10 0000 0051

EQU CP089 70001  
 EQU CP090 70002  
 EQU CP091 70003  
 EQU CP092 70004  
 EQU CP093 70005  
 EQU CP094 70006  
 EQU CP095 70007  
 EQU EEXP1 E 002  
 EQU 002 8000

3 END EXPONENTIAL 10 E 002  
 3 SPECIAL SP3

SP003 RAL 8003 XT003  
 EQU SP3 8000

3 END SPECIAL SP3  
 3 PWR FIX FIX E 501

PUD 653  
 DUP 501

2 ACC 1F 0000 TEST FOR  
 1 RAU CP002 2F 3130 Y IS  
 2 MPY ACC

BMI 5F  
 NZE 6F

SUP 8003  
 STD ACC

NZE 3F  
 RAU TS009  
 MPY TS004

3 RAU TS009 3F  
 XT003 2322 MU AND

MPY 8001  
 NZU AL002 4F

4 STL TS004 1B  
 5 RSL CP027

AML TS004  
 BMI AL003  
 NZE SP003  
 RSU CP002 2B

6 E 501 RAL TS009 XT003  
 STD XT003

LOD 9F  
 STD AH0HA 2E501

1E501 STD XT003 2E501  
 2E501 LOD CP027  
 9 STD TS009 4B  
 HLT 0501 XT003

0481 1590 43 4294 4850  
 0482 1639 49 0000 0052  
 0483 1620 93 2642 6747  
 0484 1560 25 5491 8048  
 0485 1561 17 4211 2049  
 0486 1562 72 9517 3749  
 0487 1563 25 4393 5750  
 0488 1564 66 2730 8850  
 0489 1565 11 5129 2851  
 0490 1566 10 0000 0051

0491  
 0492  
 0493  
 0494  
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 0497  
 0498  
 0499

0500  
 0501  
 0502

0503 1686 65 8003 1786  
 0504  
 0505

0506  
 0507  
 0508

0509  
 0510

0511 0000 00 1638 1638  
 0512 1638 60 1643 1647  
 0513

0514 1647 19 0000 1581  
 0515 1581 46 1700 1685  
 0516 1685 45 1690 1693

0517 1690 11 8003 1697  
 0518 1697 24 0000 1703  
 0519 1703 45 1706 1668

0520 1706 60 1861 1567  
 0521 1567 19 1875 1699  
 0522 1699 20 1861 1668

0523 1668 60 1875 1631  
 0524

0525 1631 19 8001 1657  
 0526 1657 44 1731 1604  
 0527 1604 20 1875 1638

0528 1700 66 1654 1662  
 0529 1662 17 1875 1629  
 0530 1629 46 1548 1633

0531 1633 45 1686 1687  
 0532 1687 61 1643 1647  
 0533 1693 65 1861 1786

0534 1783 24 1786 1594  
 0535 1594 69 1711 1664  
 0536 1664 24 1874 1596

0537 1683 24 1786 1596  
 0538 1596 69 1654 1707  
 0539 1707 24 1861 1604

0540 1711 01 0501 1786

ACCEPT X

TEST FOR

Y IS

MU AND

*up old: TS9 ← TS9 x TS4*

*square x*

*is x = 31?*

*TS9 ← 1  
 TS4 ← x*

*60 →*

CP002 50 0000 0000  
 CP027 00 0000 0001  
 EQU 501 8000  
 3 END PWR FIX FIX E 501  
 3 POWER FLT FLT E 010  
 3 PUD 650 ACCEPT Y

2E010 DUP 010  
 STU TS005  
 NZU 1F  
 RSL ACC  
 1 BMI 7F AL003  
 RAU ACC  
 RAB 5F  
 RAA 3E500  
 FSB ACC  
 NZU 2F

*acc = exp parent.*

~~BLA 0014 0014~~  
 2 RAU TS005 6F  
 RAM TS011  
 DIV CP022  
 NZU 5F  
 RAU TS005  
 BMI 6F  
 RAC 7F  
 5 RSU 8003 4F  
 RAM TS005  
 6 RAU 8002 6F  
 4 RAC 8F 4F  
 LOD 1E018

FMP ACC  
 7 LOD 0000C 1E019  
 8 RSU 8003 8F  
 E 010 STU ACC XT003  
 LOD 9F  
 1E010 STD AHOHA 2E010  
 9 STD XT003 2E010  
 CP022 HLT 0010 XT003  
 EQU 010 8000

*ln*  
*exp*  
*result is stored in acc. also.*

3 END POWER FLT FLT E 010  
 3 ALARM AL1

DUP AL1  
 AL001 RAL CP000 AL00H  
 AL901 RAL CP000 AL00C  
 AL801 STD XT002 AL901  
 CP000 00 0000 0000

3 END ALARM AL1  
 3 ALARM AL3  
 DUP AL3  
 AL003 RAL CP016 AL00H  
 AL903 RAL CP016 AL00C  
 AL803 STD XT002 AL903  
 CP016 02 0000 0000  
 EQU AL3 8000

3 END ALARM AL3  
 1 J0010 RCD J0004 1998 ALTER READ

0541	1643	50	0000	0000
0542	1654	00	0000	0001
0543				
0544				
0545				
0546				
0547				
0548				
0549	1678	21	1833	1692
0550	1692	44	1695	1646
0551	1646	66	0000	1669
0552	1669	46	1688	1548
0553	1695	60	0000	1710
0554	1710	82	1617	1625
0555	1625	80	1644	1742
0556	1644	33	0000	1675
0557	1675	44	1680	1674
0558				
0559	1680	60	1833	0014 → 1714
0560	1674	67	1827	1681
0561	1681	14	1684	1666
0562	1666	44	1679	1617
0563	1679	60	1833	1648
0564	1648	46	1702	<del>0014</del> 1714
0565	1702	88	1688	1712
0566	1712	61	8003	1676
0567	1617	67	1833	1701
0568	1701	60	8002	<del>0014</del> 1714
0569	<del>0014</del> 1676	88	1696	1676
0570	1676	69	1632	1591
0571	1632	39	0000	1670
0572	1670	69	6000	1659
0573	1688	61	8003	1696
0574	1696	21	0000	1786
0575	1890	24	1786	1694
0576	1694	69	1698	1713
0577	1713	24	1874	1678
0578	1682	24	1786	1678
0579	1698	01	0010	1786
0580	1684	00	0000	0002
0581				
0582				
0583				
0584				
0585	1704	65	1832	1844
0586	1626	65	1832	1895
0587	1709	24	1862	1626
0588	1832	00	0000	0000
0589				
0590				
0591				
0592				
0593	1548	65	1673	1844
0594	1667	65	1673	1895
0595	1708	24	1862	1667
0596	1673	02	0000	0000
0597				
0598				
0599				
0600	1886	70	1880	1998

J0005

00	0000	0000
PAT		
PST		
EQU	NG0GN	1801
EQU	TS009	1861
EQU	TS004	1875
EQU	XT001	1894
EQU	XT003	1786
EQU	CP017	1836
EQU	CL003	1900
EQU	CL000	1925
EQU	CL001	1990
EQU	CL002	1986
EQU	TS001	1807
EQU	TS002	1899
EQU	TS003	1741
EQU	TS005	1833
EQU	TS006	1867
EQU	TS007	1829
EQU	TS008	1782
EQU	TS010	1831
EQU	TS011	1827
EQU	TS012	1828
EQU	XT002	1862
EQU	E 004	1841
EQU	E 005	1759
EQU	E 010	1890
EQU	E 011	1891
EQU	E 016	1790
EQU	E 017	1840
EQU	E 500	1791
EQU	E 501	1783
EQU	ACC	0000
EQU	CP000	1832
EQU	CP006	1849
EQU	CP009	1837
EQU	AH0HA	1874
EQU	653	8000
EQU	2E004	1748
EQU	CP070	1716
EQU	1E004	1841
EQU	004	8000
EQU	2E005	1735
EQU	1E005	1759
EQU	005	8000
EQU	2E500	1727
EQU	AL002	1731
EQU	3E500	1742
EQU	4E500	1745
EQU	CP071	1750
EQU	1E500	1739
EQU	500	8000
EQU	LK001	1796
EQU	LK002	1804
EQU	LK1	8000
EQU	2E016	1747
EQU	1E016	1790
EQU	016	8000
EQU	2E017	1797
EQU	CP072	1800

CARD COUNT  
NONE LEFT

0601
0602
0603
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0652
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0657
0658
0659
0660

1881

00 0000 0000

EQU	CP010	1757	0661
EQU	CP014	1869	0662
EQU	1E017	1840	0663
EQU	017	8000	0664
EQU	OV001	1821	0665
EQU	OV002	9999	0666
EQU	OV1	8000	0667
EQU	CP015	1839	0668
EQU	AL00H	1844	0669
EQU	AL902	1785	0670
EQU	AL00C	1895	0671
EQU	AL802	1749	0672
EQU	AL2	8000	0673
EQU	AL00F	1898	0674
EQU	ALO	8000	0675
EQU	CP018	1892	0676
EQU	RE7GN	1560	0677
EQU	2E018	1577	0678
EQU	AL003	1548	0679
EQU	CP073	1552	0680
EQU	CP074	1611	0681
EQU	CP075	1584	0682
EQU	CP076	1592	0683
EQU	CP077	1555	0684
EQU	CP078	1556	0685
EQU	AT001	1588	0686
EQU	E 018	1541	0687
EQU	1E018	1591	0688
EQU	CP079	1655	0689
EQU	CP080	1663	0690
EQU	CP081	1614	0691
EQU	CP082	1612	0692
EQU	CP083	1660	0693
EQU	CP084	1616	0694
EQU	CP085	1623	0695
EQU	AT1	8000	0696
EQU	ELN	1541	0697
EQU	018	8000	0698
EQU	E 019	1609	0699
EQU	2E019	1628	0700
EQU	1E019	1659	0701
EQU	CP086	1590	0702
EQU	2E002	1627	0703
EQU	EEXP	1609	0704
EQU	019	8000	0705
EQU	CP087	1639	0706
EQU	AL901	1626	0707
EQU	CP088	1620	0708
EQU	E 002	1608	0709
EQU	1E002	1658	0710
EQU	CP089	1560	0711
EQU	CP090	1561	0712
EQU	CP091	1562	0713
EQU	CP092	1563	0714
EQU	CP093	1564	0715
EQU	CP094	1565	0716
EQU	CP095	1566	0717
EQU	EEXP1	1608	0718
EQU	002	8000	0719
EQU	SP003	1686	0720

	EQU		SP3	8000		0721				
	EQU		CP002	1643		0722				
	EQU		CP027	1654		0723				
	EQU		2E501	1596		0724				
	EQU		1E501	1683		0725				
	EQU		501	8000		0726				
	EQU		2E010	1678		0727				
	EQU		CP022	1684		0728				
	EQU		1E010	1682		0729				
	EQU		010	8000		0730				
	EQU		AL001	1704		0731				
	EQU		AL801	1709		0732				
	EQU		AL1	8000		0733				
	EQU		CP016	1673		0734				
	EQU		AL903	1667		0735				
	EQU		AL803	1708		0736				
	EQU		AL3	8000		0737				
1	LOADING ROUTINE FOR				PACKAGES					
J00010	RCD	J0004		8989	CHECK	0738				
J00004	RAM	P0001	90001		SEQUENTIAL	0739	1886	70	1880	8989
900001	AUP	J0005	J0002		COUNT	0740	1880	67	1851	1827
J00002	SIA	J0005	TS002			0741	1827	10	1881	1878
TS0002	SRD	0000	TS006			0742	1878	23	1881	1899
TS0006	SLO	8001	TS004			0743	1899	31	0000	1867
TS0004	NZE	CP006	90005			0744	1867	16	8001	1875
CP0006	00	9998	9999		HANG UP	0745	1875	45	1849	1831
900005	LOD	XT003	TS003			0746	1849	00	9998	9999
TS0003	STD	XT001	ACC		2NITI	0747	1831	69	1786	1741
ACC	RAL	P0007	J0001			0748	1741	24	1894	0000
J00001	SRT	0002	J0008			0749	0000	65	1857	1877
J00008	LOD	AHOHA	90002			0750	1877	30	0002	1884
900002	SDA	AHOHA	90003			0751	1884	69	1874	1828
900003	RAL	XT001	P0000			0752	1828	22	1874	1829
P00000	ALO	CP009	TS008		INCREMENT	0753	1829	65	1894	1850
TS0008	STL	XT001	TS001			0754	1850	15	1837	1782
TS0001	SRT	0004	90004			0755	1782	20	1894	1807
900004	ALO	90007	XT001			0756	1807	30	0004	1830
XT0003	LOD	P0001	AHOHA			0757	1830	15	1833	1894
AHOHA	STD	8989	NGOGN		STORE INST	0758	1786	69	1851	1874
NGOGN	AUP	P0007	J0003		TRANSFER	0759	1874	24	8989	1801
J00003	SLO	8002	8001		TO	0760	1801	10	1857	1879
J00006	SRT	0008	J0008		SHIFT	0761	1879	16	8002	8001
J00007	SRT	0004	J0008		TABLE	0762	1882	30	0008	1884
J00009	SLT	0004	J0008			0763	1883	30	0004	1884
900007	ALO	1789	0030		FUDGER	0764	1885	35	0004	1884
CP0009	00	0001	0000			0765	1833	15	1789	0030
						0766	1837	00	0001	0000