



REVISION NOTICE

This publication replaces previous descriptions of "Data Input 5," program J2-11.4. Program references have been changed to their present designations.

FUNCTION

"Data Input 5" enables the user to input groups of 9 decimal digit numbers from tape, each group with the same decimal point; to convert each number to binary, all at the same "q"; and to store them in consecutive memory locations. The identification word contains P, ± q, and the location for the first number to be stored. All following numbers of the group are filled sequentially at the same P and q. A "minus zero" number will terminate the group and another word will be read.

CALLING SEQUENCE

<u>Location</u>	<u>Instruction</u>	<u>Address</u>
XXXX	R	$Lo + 8)_{10}$
XXXX + 1	U	Lo
XXXX.+ 2	etc.	

INPUT

For each group of numbers input the following data:

1. 1 identification word consisting of P, ± q, and location to begin storing numbers. (See Data Input 1, program J2-110R for format and definitions).

DATA INPUT 5

INPUT (Cont.)

2. Groups of sign and 9 decimal digit numbers, each number being in 2 word form. The first word contains the sign (if negative) and the leading 7 decimal digits. The second word contains the last 2 decimal digits. Each word must be followed by a stop code.
3. A "minus zero" word to signal the end of the group. This is a minus sign followed by 7 zeros and a stop code.

The last character read by this routine before exiting is a zero identification word.

EXIT

A zero identification word (normally preceded by a minus zero number) will cause the routine to exit to XXXX + 2.

TIME

40 - 50 words per minute.

STORAGE

224 locations of instructions and constants (3 tracks, 32 sectors) are required in memory. Six locations of temporary storage (track 63, sectors 00, 01, 02, 03, 04, 05) are required.

ACCURACY

Maximum error is 1 bit in the 30th position of the scaled number. There is no error in the conversion of an all integer number.

Job No. _____ Prog. No. 11.4 Prep. by M.R. Ck'd. by _____ Date _____

Problem DATA INPUT #5 SUBROUTINE Track _____

Program Input Codes	Stop	Location	Instruction Op. Address	Stop	Contents of Address	Notes
300.0	.					
100.0	⊗					
		00.0.0	B0.0.43		A0259	
		0.1	C0.0.37			
		0.2	X P0.0.17			
		0.3	X I0.0.00	⊗		
		0.4	U0.0.05			
		0.5	H0.1.20			
		0.6	T0.0.21		→ P = 8 or 9	
		0.7	S0.1.57	⊗	1 @ 29	
		0.8	T []		EXIT	I.D. = 0
		0.9	A0.2.38		1 @ 29	
		1.0	N0.2.46		1 @ 29	
		1.1	E0.1.54	⊗	5WKWKWJ TRIM I.D.WORD	
		1.2	X H6.3.02		N1	
		1.3	E0.1.56			
		1.4	M0.1.50		K0000000	
		1.5	U0.0.16	⊗		
		1.6	X A6.3.02		N1	
		1.7	X H6.3.03		N2	
		1.8	E0.1.61		0NWWW000	
		1.9	M0.1.55	⊗	F0000000	
		2.0	U0.0.24			
		2.1	R0.0.37			
		2.2	U0.0.10			
		2.3	X Z0.0.08	⊗	3 @ 29	
		2.4	X A6.3.03			
		2.5	Y0.1.37			
		2.6	E0.2.48		WWW0000 DRAP ADD.	
		2.7	A0.2.06	⊗	-1 @ 7	
		2.8	T0.0.31			
		2.9	X C6.3.01			
		3.0	U0.2.36			
		3.1	A0.3.17	⊗	1 @ 7	

Conditional Stop Code



Carriage Return

Job No. _____ Prog. No. 11.4 Prep. by M.K. Ck'd. by _____ Date _____

Problem DATA INPUT #5 SUBROUTINE Track _____

Program Input Codes	Stop	Location	Instruction Op.	Address	Stop	Contents of Address	Notes
<u>300.0</u>							
<u>100.0</u>		<input checked="" type="checkbox"/>					
		<u>00.00</u>	<u>B0.043</u>			<u>A0259</u>	
		<u>01</u>	<u>C0.037</u>				
		<u>02</u>	<u>XP0.017</u>				
		<u>03</u>	<u>XI0.000</u>		<input checked="" type="checkbox"/>		
		<u>04</u>	<u>U0.005</u>				
		<u>05</u>	<u>H0.120</u>				
		<u>06</u>	<u>T0.021</u>			<u>→ P=809</u>	
		<u>07</u>	<u>S0.157</u>		<input checked="" type="checkbox"/>	<u>1@29</u>	
		<u>08</u>	<u>TL</u>			<u>EXIT</u>	<u>I.D.=0</u>
		<u>09</u>	<u>A0.238</u>			<u>1@29</u>	
		<u>10</u>	<u>N0.246</u>			<u>1@29</u>	
		<u>11</u>	<u>E0.154</u>		<input checked="" type="checkbox"/>	<u>5WKWKWJ TRIM I.D.WORD</u>	
		<u>12</u>	<u>XH6.302</u>			<u>N1</u>	
		<u>13</u>	<u>E0.156</u>				
		<u>14</u>	<u>M0.150</u>			<u>K0000000</u>	
		<u>15</u>	<u>U0.016</u>		<input checked="" type="checkbox"/>		
		<u>16</u>	<u>XA6.302</u>			<u>N1</u>	
		<u>17</u>	<u>XH6.303</u>			<u>N2</u>	
		<u>18</u>	<u>E0.161</u>			<u>0WVWVW00</u>	
		<u>19</u>	<u>M0.155</u>		<input checked="" type="checkbox"/>	<u>F0000000</u>	
		<u>20</u>	<u>U0.024</u>				
		<u>21</u>	<u>R0.037</u>				
		<u>22</u>	<u>U0.010</u>				
		<u>23</u>	<u>XZ0.008</u>		<input checked="" type="checkbox"/>	<u>8@29</u>	
		<u>24</u>	<u>XA6.303</u>				
		<u>25</u>	<u>Y0.137</u>				
		<u>26</u>	<u>E0.248</u>			<u>WVWVW000 DRAP ADD.</u>	
		<u>27</u>	<u>A0.206</u>		<input checked="" type="checkbox"/>	<u>-1@7</u>	
		<u>28</u>	<u>T0.031</u>				
		<u>29</u>	<u>XC6.301</u>				
		<u>30</u>	<u>U0.236</u>				
		<u>31</u>	<u>A0.317</u>		<input checked="" type="checkbox"/>	<u>1@7</u>	

Conditional Stop Code



Carriage Return

Job No. _____ Prog. No. 11.4 Prep. by M.K Ck'd. by _____

Problem Data Input #5 Subroutine Track _____

Program Input Codes	Stop	Location	Instruction Op.	Address	Stop	Contents of Address	Notes
		<input checked="" type="checkbox"/>					
		0100	N	0143		1@28	
		01	M	0151		1@2	
		02	T	0110		→ Neg. Number	
		03	V	0104		<input checked="" type="checkbox"/>	
		04	S	0247		1@30	
		05	T	0123		→ No.=0	
		06	A	0042		1@30	
		07	R	0243		<input checked="" type="checkbox"/>	
		08	V	0244			
		09	V	0118			
		10	E	0153		1W WWWWWQ	Drop Sign
		11	S	0247		<input checked="" type="checkbox"/> 1@30	
		12	T	0000		→ "-zero" word	
		13	A	0042		1@30	
		14	R	0243			
		15	V	0244		<input checked="" type="checkbox"/>	
		16	X	6302		} Complement for } negative number	
		17	X	56302			
		18	V	[]		U0134 or U0121	
		19	Z	0163		<input checked="" type="checkbox"/> Lo shift table	
		20	[]			temp.	
		21	X	M6300		-shift / - 10 P	
		22	V	0137			
		23	B	0041		<input checked="" type="checkbox"/>	
		24	V	0130			
,0000005		25	I	Q01W000			
		26	G	2000000			
		27			6	<input checked="" type="checkbox"/> .75@28	
		28			W8		
		29	K	0000000			
		30		00243			
		31	V	0241		<input checked="" type="checkbox"/>	

Conditional Stop Code



Carriage Return

Job No. _____ Prog. No. 11.4 Prep. by M.K. Ck'd. by _____

Problem DATA INPUT # 5 SUBROUTINE Track _____

Program Input Codes	Stop	Location	Instruction Op.	Address	Stop	Contents of Address	Notes
		<input checked="" type="checkbox"/>					
<u>0.000.0001</u>		<u>0132</u>		<u>1WQ</u>			
		<u>33</u>	[<u>TEMP</u>	
		<u>34</u>	<u>D0320</u>			<u>SCALE: SHIFT LEFT</u>	
		<u>35</u>	<u>XD63.00</u>		<input checked="" type="checkbox"/>	<u>SCALE: DIVIDE BY 10^P</u>	
		<u>36</u>	<u>U0137</u>				
		<u>37</u>	<u>CL</u>			<u>STORE CONVERTED NUMBER</u>	
		<u>38</u>	<u>B0137</u>				
		<u>39</u>	<u>U0307</u>		<input checked="" type="checkbox"/>		
		<u>40</u>	<u>XH63.05</u>			<u>- SHIFT @ 29</u>	
		<u>41</u>	<u>B0306</u>			<u>U0121</u>	
		<u>42</u>	<u>U0144</u>				
		<u>43</u>	<u>XZ0002</u>		<input checked="" type="checkbox"/>	<u>1 @ 28</u>	
		<u>44</u>	<u>Y0118</u>				
		<u>45</u>	<u>B0260</u>			<u>LO SHIFT TABLE</u>	
		<u>46</u>	<u>U0147</u>				
		<u>47</u>	<u>XS63.05</u>		<input checked="" type="checkbox"/>	<u>+ / SHIFT</u>	
		<u>48</u>	<u>Y0158</u>				
		<u>49</u>	<u>U0158</u>				
<u>0.000.0010</u>		<u>50</u>	<u>K0000000</u>			<u>- 6 @ 4</u>	
		<u>51</u>	<u>20000000</u>		<input checked="" type="checkbox"/>	<u>1 @ 2</u>	
		<u>52</u>	<u>2</u>			<u>1 @ 30</u>	
		<u>53</u>	<u>1.W.W.W.W.W.Q</u>			<u>MASKS</u>	
		<u>54</u>	<u>5.W.K.W.K.W.J</u>				
		<u>55</u>	<u>F0000000</u>		<input checked="" type="checkbox"/>	<u>- 3/4 @ 0</u>	
		<u>56</u>	<u>3.J3.J3.J.0</u>			<u>MASK</u>	
		<u>57</u>	<u>4</u>			<u>1 @ 29</u>	
		<u>58</u>	<u>BE</u>				
		<u>59</u>	<u>DE</u>		<input checked="" type="checkbox"/>		
		<u>60</u>	<u>U0061</u>				
<u>0.000.0033</u>		<u>61</u>	<u>W.W.W.W.W.00</u>			<u>MASKS</u>	
		<u>62</u>	<u>1.W.W.Q.0000</u>				
		<u>63</u>	<u>80000000</u>		<input checked="" type="checkbox"/>	<u>- 1 @ 0</u>	

Conditional Stop Code Carriage Return

Job No. _____ Prog. No. 11.4 Prep. by MK Ck'd. by _____

Problem DATA INPUT #5 SUBROUTINE Track _____

Program Input Codes	Stop	Location	Instruction Op. Address	Stop	Contents of Address	Notes
		<input checked="" type="checkbox"/>				
		0200	I00000000		-1@1	
		01	Q00000000		-1@2	
		02	W00000000		-1@3	
		03	W80000000	<input checked="" type="checkbox"/>	-1@4	
		04	WJ0000000		-1@5	
		05	WQ0000000		-1@6	
		06	W.W0000000		-1@7	
		07	W.W8000000	<input checked="" type="checkbox"/>	-1@8	
		08	W.WJ000000		-1@9	
		09	W.WQ000000		-1@10	
		10	W.W.W000000		-1@11	
		11	W.W.W800000	<input checked="" type="checkbox"/>	-1@12	
		12	W.W.WJ00000		-1@13	
		13	W.W.WQ00000		-1@14	
		14	W.W.W.W00000		-1@15	
		15	W.W.W.W80000	<input checked="" type="checkbox"/>	-1@16	
		16	W.W.W.WJ0000		-1@17	
		17	W.W.W.WQ0000		-1@18	
		18	W.W.W.W.W0000		-1@19	
		19	W.W.W.W.W8000	<input checked="" type="checkbox"/>	-1@20	
		20	W.W.W.W.WJ000		-1@21	
		21	W.W.W.W.WQ000		-1@22	
		22	W.W.W.W.W.WD00		-1@23	
		23	W.W.W.W.W.W800	<input checked="" type="checkbox"/>	-1@24	
		24	W.W.W.W.W.WJ00		-1@25	
		25	W.W.W.W.W.WQ00		-1@26	
		26	W.W.W.W.W.W.W00		-1@27	
		27	W.W.W.W.W.W.W80	<input checked="" type="checkbox"/>	-1@28	
		28	W.W.W.W.W.W.WJ0		-1@29	
		29	J00000000		-1@1	
		30	V0134			
		31	X.A.6303	<input checked="" type="checkbox"/>	Ne	

Conditional Stop Code



Carriage Return

Job No. _____ Prog. No. 11.4 Prep. by MK Ck'd. by _____

Problem DATA INPUT #5 SUBROUTINE Track _____

Program Input Codes	Stop	Location	Instruction Op.	Address	Stop	Contents of Address	Notes
		02	XH	6304		N3	
		33	E	0162		1WWW0000	
		34	M	0313		93880000	
		35	V	0239			
		36	XS	6301			
		37	V	0032			
		38	XZ	0001			
		39	XA	6304		N3	
		40	W	0312		100 @31	
		41	C	0120			
		42	V	0300			
		43	VL			EXIT FROM BINARIZE	
		44	XH	6302		N1	
		45	V	0249			
0.0.0.0.0.3		46		4		1 @29	
		47		2		1 @30	
		48	WWW	0000		MASK	
		49	E	0314		01010100	
		50	M	0129		K0000000	
		51	XA	6302		N1	
		52	XH	6303		N2	
		53	E	0125		1001W000	
		54	M	0126		62000000	
		55	V	0231			
		56	E	0314		01010100	
		57	M	0129		K0000000	
		58	V	0261			
		59	XZ	0000			
		60	Z	0163		LO SHIFT TABLE	
		61	A	0133			
		62	A	0120			
		63	V	0243			

Conditional Stop Code Carriage Return

Job No. _____ Prog. No. 11.4 Prep. by MK Ck'd. by _____

Problem DATA INPUT #5 SUBROUTINE Track _____

Program Input Codes	Stop	Location	Instruction Op. Address	Stop	Contents of Address	Notes
				<input checked="" type="checkbox"/>		
		03,00	XP00,15			
		01	XI00,00			
		02	ND152		1 @ 30	
		03	E0132		<input checked="" type="checkbox"/> 000001WQ	
		04	H0133		Ni	
		05	U0256			
		06	U0121			
		07	A0157		<input checked="" type="checkbox"/> 1 @ 29	
		08	C0137			
		09	U0062			
		10	XZ0030		30 @ 29	
		11	Z0322		<input checked="" type="checkbox"/> 40 FOR 10 ^P TABLE	
		12	XZ0025		100 @ 31	
0.000.0.0.19		13	93880000			
		14	1Q.1Q.1Q.0			
		15	20		<input checked="" type="checkbox"/>	
		16				
		17	1.000000			
		18	20000			
		19	13333334		<input checked="" type="checkbox"/> 3/10 @ 1	
		20	[]			
		21	70000000		MASK	
		22	80000000		-10° @ 1	
		23	60000000		<input checked="" type="checkbox"/> -10' @ 4	
		24	95000000		-10 ² @ 7	
		25	83000000		-10 ³ @ 10	
		26	G1000000		-10 ⁴ @ 14	
		27	9Q580000		<input checked="" type="checkbox"/> -10 ⁵ @ 17	
		28	85000000		-10 ⁶ @ 20	
		29	G3G4J000		-10 ⁷ @ 24	
		30	F0F1W000		-10 ⁸ @ 27	
		31	88JF6J00		<input checked="" type="checkbox"/> -10 ⁹ @ 35	

Conditional Stop Code



Carriage Return