SOURCE STATEMENT

SC

00018

SOURCE PROGRAM PAGE 001

```
00000
                   'BEGIN'
                     'COMMENT' TEST PROGRAM Q09
00000
00000
00000
                           THIS PROGRAM GENERATES AND PRINTS THE FIRST TWENTY
00000
                           LINES OF PASCALS TRIANGLE
00000
                           THE K TH ELEMENT P(K,J) OF THE J TH LINE SHOULD BE
00000
                           EQUAL TO THE SUM OF P(K-1,J-1) AND P(K,J-1) FOR K = 0
00000
00000
                           AND K \neg = J.
00000
                           P(0, J)=P(J,J)=1
00000
                           THUS BY ADDING TWO BY TWO ALL ELEMENTS IN ONE LINE
                           PLACING EACH SUM BELOW AND BETWEEN THE TWO ELEMENTS THE
00000
00000
                           NEXT LINE OF PASCALS TRIANGLE COULD BE EXPANDED;
99999
                   'INTEGER' L,K,N,I,M,POWERTEN;
'INTEGER' 'ARRAY' A(/0:19/);
'BOOLEAN' C;
SYSACT(1,6,120);
00000
00001
00002
00003
                   SYSACT(1,8,62);
SYSACT(1,12,1);
00004
00005
                   SYSACT(1,2,56);
OUTSTRING (1,'('PASCALS TRIANGLE')');
'FOR' L:= 0 'STEP' 1 'UNTIL' 19 'DO'
00006
00007
00008
00008
00008
                      'BEGIN'
                      SYSACT(1,14,3);
'IF' L < 19 'THEN'
SYSACT(1,2,58-3*L);
00009
00009
                      SYSACI(1,2,58-3*L);
A(/L/) := 1;

'FOR' K := L-1 'STEP' -1 'UNTIL' 1 'DO'
A(/K/) := A (/K-1/) + A(/K/);

'FOR' K := 0 'STEP' 1 'UNTIL' L 'DO'
'BEGIN'
C := 'TRUE';
00010
00011
00011
00012
00012
00012
                           M := A(/K/);
'FOR' I := 5 'STEP' -1 'UNTIL' 0 'DO'
'BEGIN'
00013
00014
99914
                              BEGIN'
POWERTEN :=10 'POWER' I;
N := M '/' POWERTEN;
M := M-N * POWERTEN;
'IF' N 'EQUAL' 0 'THEN'
'BEGIN'
00014
00015
00016
00017
00017
                                   'IF' C 'THEN' OUTSYMBOL (1,'(' ')',1)

'ELSE' OUTSYMBOL (1,'('0')',1);
00017
00017
00018
                                 'END'
                                   'ELSE'
00018
                                    'BEGIN'
```

PAGE 002 SOURCE STATEMENT SC

```
SOURCE PROGRAM

C := 'FALSE';
OUTSYMBOL(1,'('123456789')',N);
'END'
'END'
'END'
'END'
'END'
00018
00019
00020
00020
00020
00020
00020
```

IDENTIFIER TABLE PAGE 003

PBN SC	PBN SURR	NAME	TYPE	DM PR	DSP LN	NAME	TYPE	DSP LN	NAME	TYPE	DM PR	DSP LN
001 00000	000	A K N	I A I I	01	030 01C 020	C L POWERT	B I I	048 018 02C	I M	I I		024 028

OBJECT MODULE SIZE 1968 BYTES.

DATA STORAGE AREA SIZES

PBN BYTES PBN BYTES PBN BYTES PBN BYTES

001 132

# CROSS REFERENCE TABLE

CONTROL S	ECTION		ENTRY							
NAME	ORIGIN 00	LENGTH 7B0	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION
			IHIDSTAB	758	IHIENTIF	7A4				
IHIFRIXP*	7B0	84	IHIFRI	7B8						
IHIFSARA*	838	E52	IIII KI	750						
			IHIFSAIN	163C						
IHIFSARB*	1690	688								
IHIOSTRG*	1D18	128								
IHIOSYMB*	1E40	120								
IHISYSCT*	1F60	758								
IHIIORTN*	26B8	BFC								
			IHIIOROQ		IHIIOROP	274C	IHIIORNX	2AEA	IHIIORCL	2D0C
			IHIIORCP		IHIIORGP	2F68	IHIIORCN	2F6C	IHIIOREN	2FA6
			IHIIOREV	2FFE	IHIIORED	3070	IHIIORCI	3120	IHIIORER	31A4
LOCATION	REFERS	TO SYMBOL	IN CONTROL SECTION		LOCATIO	N REFERS	TO SYMBOL	IN CONTROL	SECTION	
690		IHISYSCT	IHISYSCT		6C	3	IHIOSYMB	B I	HIOSYMB	
6E4		IHIOSTRG	IHIOSTRG		6F	1	IHIFRI	Ił	HIFRIXP	
8E4		IHIDSTAB			AD	3	IHIIOROP	) II	HIIORTN	
AE1		IHIIORNX	IHIIORTN		AD	2	IHIIORCP	) II	HIIORTN	
1670		IHIENTIF			162	3	IHIIOROP	) II	HIIORTN	
1678		IHIIOROP	IHIIORTN		161	2	IHIIORCL	. II	HIIORTN	
1680		IHIIORCL	IHIIORTN		162	1	IHIIORNX	( I	HIIORTN	
167C		IHIIORNX	IHIIORTN		161		IHIIORCI	: II	HIIORTN	
1620		IHIIOREV	IHIIORTN		162	2	IHIIOROQ	<u>)</u> I	HIIORTN	
1630		IHIIOREN	IHIIORTN		163		IHIIORGP	) II	HIIORTN	
1674		IHIIORCP	IHIIORTN		163		IHIIORER		HIIORTN	
1660		IHIFSARB	IHIFSARB		1699	9	IHIFSARA	ı II	HIFSARA	

ENTRY ADDRESS 163C

GO

ALGOL PROGRAM TRACE

### MODULE SEMICOLON NUMBERS

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END OF ALGOL PROGRAM EXECUTION

1

1 1

1 2 1

1 3 3 1

1 4 6 4 1

1 5 10 10 5 1

1 6 15 20 15 6 1

1 7 21 35 35 21 7 1

1 8 28 56 70 56 28 8 1

1 9 36 84 126 126 84 36 9 1

1 10 45 120 210 252 210 120 45 10 1

1 11 55 165 330 462 462 330 165 55 11 1

1 12 66 220 495 792 924 792 495 220 66 12 1

1 13 78 286 715 1287 1716 1716 1287 715 286 78 13 1

1 14 91 364 1001 2002 3003 3432 3003 2002 1001 364 91 14 1

1 15 105 455 1365 3003 5005 6435 6435 5005 3003 1365 455 105 15 1

1 16 120 560 1820 4368 8008 11440 12870 11440 8008 4368 1820 560 120 16 1

1 17 136 680 2380 6188 12376 19448 24310 24310 19448 12376 6188 2380 680 136 17 1

1 18 153 816 3060 8568 18564 31824 43758 48620 43758 31824 18564 8568 3060 816 153 18 1

1 19 171 969 3876 11628 27132 50388 75582 92378 92378 75582 50388 27132 11628 3876 969 171 19 1

\*\*\*\* MODULE SUMMARY \*\*\*\*

MEMBER NAME GO

## MAIN ENTRY POINT 00163C

\*\* ALIASES \*\* SECONDARY ENTRY POINT ADDRESSES ASSOCIATED WITH ALIASES:

.....

\*\*\*\* LINKAGE EDITOR ATTRIBUTES OF MODULE \*\*\*\*

\*\* BIT STATUS BIT STATUS BIT STATUS BIT STATUS \*\*

0 NOT-RENT 1 NOT-REUS 2 NOT-OVLY 3 NOT-TEST 4 NOT-OL 5 BLOCK 6 EXEC 7 MULTI-RCD 8 NOT-DC 9 ZERO-ORG 10 EP > ZERO 11 RLD 12 EDIT 13 NO-SYMS 14 F-LEVEL 15 NOT-REFR

-----

MODULE SSI: NONE APFCODE 00000000

\*\*\*\*\*LOAD MODULE PROCESSED BY VS LINKAGE EDITOR

## THIS LOAD MODULE CONTAINS NO INFORMATION SUPPLIED BY IMASPZAP

THIS LOAD MODULE WAS PRODUCED BY LINKAGE EDITOR 5752SC104 AT LEVEL 03.08 ON DAY 184 OF YEAR 12 AT 12:30:19.

CSECT YR/DAY USER DATA

 IHIFSARA
 71/306
 RSI12910028

 IHIFSARB
 71/306
 RSI12910028

 IHISYSCT
 71/306
 RSI12910032