

# $A_{17} \pmod{7}$

	blocks	defect	matrix
$G :$	1	2	$35 \times 27$
	2	2	$22 \times 18$
	3	1	$7 \times 6$
	4	1	$7 \times 6$
	5	1	$7 \times 6$
	6	1	$7 \times 6$
	7	1	$7 \times 6$
	8	1	$7 \times 6$
	9	1	$5 \times 3$
	10	1	$7 \times 6$
	11	1	$7 \times 6$
	12	0	$33320_1 = \chi_{28}, \varphi_{30}$
	13	1	$7 \times 6$
	14	1	$7 \times 6$
	15	0	$129948_1 = \chi_{46}, \varphi_{52}$
	16	0	$129948_2 = \chi_{47}, \varphi_{53}$
	17	0	$238238_1 = \chi_{62}, \varphi_{70}$
	18	0	$259896_1 = \chi_{65}, \varphi_{77}$
	19	0	$333200_1 = \chi_{73}, \varphi_{83}$
	20	0	$346528_1 = \chi_{76}, \varphi_{85}$
	21	0	$399840_1 = \chi_{80}, \varphi_{88}$
	22	0	$433160_1 = \chi_{82}, \varphi_{91}$
	23	0	$586432_1 = \chi_{91}, \varphi_{98}$
	24	0	$749700_1 = \chi_{102}, \varphi_{103}$
	25	0	$952952_1 = \chi_{111}, \varphi_{111}$
	26	0	$1082900_1 = \chi_{117}, \varphi_{114}$
	27	0	$1082900_2 = \chi_{118}, \varphi_{115}$
	28	0	$1299480_1 = \chi_{123}, \varphi_{119}$
	29	0	$1429428_1 = \chi_{130}, \varphi_{123}$
	30	0	$1832600_1 = \chi_{141}, \varphi_{124}$
	31	0	$1905904_1 = \chi_{142}, \varphi_{125}$
	32	0	$2165800_1 = \chi_{143}, \varphi_{127}$
	33	0	$2436525_1 = \chi_{147}, \varphi_{128}$
	$34 = \overline{33}$	0	$2436525_2 = \chi_{148}, \varphi_{129}$
	35	0	$2598960_1 = \chi_{152}, \varphi_{130}$
	36	0	$2858856_1 = \chi_{154}, \varphi_{131}$
	37	0	$3573570_1 = \chi_{155}, \varphi_{132}$





(Block 1:)	$\varphi_{110}$	$\varphi_{116}$		
$1_1 = \chi_1$	.	.		
$120_1 = \chi_4$	.	.		
$1105_1 = \chi_7$	.	.		
$1700_1 = \chi_8$	.	.	$\varphi_1 =$	$1_1$
$3536_1 = \chi_{10}$	.	.	$\varphi_4 =$	$120_1$
$7072_1 = \chi_{19}$	.	.	$\varphi_7 =$	$985_1$
$11440_1 = \chi_{21}$	.	.	$\varphi_8 =$	$1699_1$
$15912_1 = \chi_{22}$	.	.	$\varphi_{11} =$	$2551_1$
$19448_1 = \chi_{24}$	.	.	$\varphi_{17} =$	$5373_1$
$37400_1 = \chi_{30}$	.	.	$\varphi_{21} =$	$11440_1$
$48620_1 = \chi_{33}$	.	.	$\varphi_{22} =$	$14213_1$
$65637_1 = \chi_{35}$	.	.	$\varphi_{24} =$	$18463_1$
$70720_1 = \chi_{37}$	.	.	$\varphi_{28} =$	$26861_1$
$87516_1 = \chi_{40}$	.	.	$\varphi_{29} =$	$27334_1$
$116688_1 = \chi_{41}$	.	.	$\varphi_{31} =$	$34849_1$
$121550_1 = \chi_{43}$	.	.	$\varphi_{33} =$	$36586_1$
$134640_1 = \chi_{48}$	.	.	$\varphi_{36} =$	$54197_1$
$145860_1 = \chi_{50}$	.	.	$\varphi_{37} =$	$56507_1$
$155584_1 = \chi_{53}$	.	.	$\varphi_{38} =$	$60181_1$
$194480_1 = \chi_{57}$	.	.	$\varphi_{46} =$	$94569_1$
$291720_1 = \chi_{70}$	.	.	$\varphi_{48} =$	$101387_1$
$318240_1 = \chi_{71}$	.	.	$\varphi_{50} =$	$111011_1$
$364650_1 = \chi_{78}$	.	.	$\varphi_{62} =$	$172480_1$
$388960_1 = \chi_{79}$	.	.	$\varphi_{65} =$	$207229_1$
$466752_1 = \chi_{83}$	.	.	$\varphi_{71} =$	$248083_1$
$486200_1 = \chi_{84}$	.	.	$\varphi_{76} =$	$259486_1$
$848640_1 = \chi_{106}$	.	.	$\varphi_{100} =$	$716671_1$
$972400_1 = \chi_{112}$	1	.	$\varphi_{109} =$	$887789_1$
$1454112_1 = \chi_{131}$	.	.	$\varphi_{110} =$	$893756_1$
$1591200_1 = \chi_{134}$	.	1	$\varphi_{116} =$	$1122648_1$
$1750320_1 = \chi_{139}$	1	.		
$1750320_2 = \chi_{140}$	.	.		
$2362932_1 = \chi_{145}$	1	1		
$2431000_1 = \chi_{146}$	.	1		
$3620864_1 = \chi_{156}$	1	1		

<b>Block 2:</b>	$\varphi_2$	$\varphi_5$	$\varphi_{13}$	$\varphi_{18}$	$\varphi_{19}$	$\varphi_{25}$	$\varphi_{47}$	$\varphi_{49}$	$\varphi_{54}$	$\varphi_{59}$	$\varphi_{60}$	$\varphi_{68}$	$\varphi_{69}$
$16_1 = \chi_2$	1	.	.	.	.	.	.	.	.	.	.	.	.
$544_1 = \chi_5$	1	1	.	.	.	.	.	.	.	.	.	.	.
$4862_1 = \chi_{13}$	.	1	1	.	.	.	.	.	.	.	.	.	.
$6435_1 = \chi_{17}$	.	.	.	1	.	.	.	.	.	.	.	.	.
$6435_2 = \chi_{18}$	.	.	.	.	1	.	.	.	.	.	.	.	.
$20400_1 = \chi_{25}$	.	1	.	.	.	1	.	.	.	.	.	.	.
$116688_2 = \chi_{42}$	.	.	.	.	.	1	1	.	.	.	.	.	.
$159120_1 = \chi_{55}$	1	1	1	.	.	1	.	.	1	.	.	.	.
$233376_1 = \chi_{61}$	.	.	.	1	1	.	.	.	.	.	.	1	.
$243100_1 = \chi_{63}$	1	.	.	.	.	.	.	1	1	.	.	.	.
$353600_1 = \chi_{77}$	.	.	.	.	.	.	1	.	.	.	.	.	.
$583440_1 = \chi_{89}$	.	.	.	.	.	1	1	.	1	.	.	.	.
$583440_2 = \chi_{90}$	.	.	1	.	.	.	.	1	.	.	.	.	.
$631125_1 = \chi_{94}$	.	.	.	.	.	.	.	.	.	1	.	.	1
$631125_2 = \chi_{95}$	.	.	.	.	.	.	.	.	.	.	1	.	1
$700128_1 = \chi_{98}$	.	.	.	.	.	.	.	.	.	.	.	1	1
$729300_1 = \chi_{99}$	.	.	.	.	.	.	.	1	.	1	.	.	.
$729300_2 = \chi_{100}$	.	.	.	.	.	.	.	1	.	.	1	.	.
$908820_1 = \chi_{109}$	.	.	.	.	.	.	1	.	.	.	.	.	1
$972400_2 = \chi_{113}$	.	.	.	1	1	.	.	.	.	.	.	1	1
$1050192_1 = \chi_{116}$	.	.	1	.	.	.	.	1	1	.	.	.	.
$1326000_1 = \chi_{124}$	.	.	.	.	.	.	.	.	.	1	1	.	1

(Block 2:)	$\varphi_{73}$	$\varphi_{74}$	$\varphi_{75}$	$\varphi_{82}$	$\varphi_{92}$	
$16_1 = \chi_2$	.	.	.	.	.	$\varphi_2 = 16_1$
$544_1 = \chi_5$	.	.	.	.	.	$\varphi_5 = 528_1$
$4862_1 = \chi_{13}$	.	.	.	.	.	$\varphi_{13} = 4334_1$
$6435_1 = \chi_{17}$	.	.	.	.	.	$\varphi_{18} = 6435_1$
$6435_2 = \chi_{18}$	.	.	.	.	.	$\varphi_{19} = 6435_2$
$20400_1 = \chi_{25}$	.	.	.	.	.	$\varphi_{25} = 19872_1$
$116688_2 = \chi_{42}$	.	.	.	.	.	$\varphi_{47} = 96816_1$
$159120_1 = \chi_{55}$	.	.	.	.	.	$\varphi_{49} = 108714_1$
$233376_1 = \chi_{61}$	.	.	.	.	.	$\varphi_{54} = 134370_1$
$243100_1 = \chi_{63}$	.	.	.	.	.	$\varphi_{59} = 150194_1$
$353600_1 = \chi_{77}$	1	.	.	.	.	$\varphi_{60} = 150194_2$
$583440_1 = \chi_{89}$	.	.	.	1	.	$\varphi_{68} = 220506_1$
$583440_2 = \chi_{90}$	.	.	.	.	1	$\varphi_{69} = 222838_1$
$631125_1 = \chi_{94}$	.	1	.	.	.	$\varphi_{73} = 256784_1$
$631125_2 = \chi_{95}$	.	.	1	.	.	$\varphi_{74} = 258093_1$
$700128_1 = \chi_{98}$	1	.	.	.	.	$\varphi_{75} = 258093_2$
$729300_1 = \chi_{99}$	.	.	.	.	1	$\varphi_{82} = 332382_1$
$729300_2 = \chi_{100}$	.	.	.	.	1	$\varphi_{92} = 470392_1$
$908820_1 = \chi_{109}$	1	.	.	1	.	
$972400_2 = \chi_{113}$	.	1	1	.	.	
$1050192_1 = \chi_{116}$	.	.	.	1	1	
$1326000_1 = \chi_{124}$	.	.	.	1	1	

Block 3:	$\varphi_3$	$\varphi_{45}$	$\varphi_{63}$	$\varphi_{79}$	$\varphi_{106}$	$\varphi_{107}$	
$119_1 = \chi_3$	1	.	.	.	.	.	$\varphi_3 = 119_1$
$85085_1 = \chi_{39}$	.	1	.	.	.	.	$\varphi_{45} = 85085_1$
$272272_1 = \chi_{66}$	1	.	.	1	.	.	$\varphi_{63} = 187187_1$
$272272_4 = \chi_{69}$	.	1	1	.	.	.	$\varphi_{79} = 272153_1$
$1047200_1 = \chi_{115}$	.	.	1	.	.	1	$\varphi_{106} = 841687_1$
$1113840_1 = \chi_{122}$	.	.	.	1	1	.	$\varphi_{107} = 860013_1$
$1701700_1 = \chi_{137}$	.	.	.	.	1	1	

<b>Block 4:</b>	$\varphi_6$	$\varphi_{20}$	$\varphi_{78}$	$\varphi_{90}$	$\varphi_{96}$	$\varphi_{113}$
$560_1 = \chi_6$	1	.	.	.	.	.
$8008_1 = \chi_{20}$	.	1	.	.	.	.
$272272_3 = \chi_{68}$	1	.	1	.	.	.
$565488_1 = \chi_{88}$	.	1	.	.	1	.
$680680_2 = \chi_{97}$	.	.	1	1	.	.
$1485120_1 = \chi_{132}$	.	.	.	1	.	1
$1633632_2 = \chi_{136}$	.	.	.	.	1	1

$$\begin{aligned} \varphi_6 &= 560_1 \\ \varphi_{20} &= 8008_1 \\ \varphi_{78} &= 271712_1 \\ \varphi_{90} &= 408968_1 \\ \varphi_{96} &= 557480_1 \\ \varphi_{113} &= 1076152_1 \end{aligned}$$

<b>Block 5:</b>	$\varphi_9$	$\varphi_{14}$	$\varphi_{57}$	$\varphi_{89}$	$\varphi_{95}$	$\varphi_{108}$
$1820_1 = \chi_9$	1	.	.	.	.	.
$4368_1 = \chi_{12}$	.	1	.	.	.	.
$148512_1 = \chi_{51}$	1	.	1	.	.	.
$408408_1 = \chi_{81}$	.	1	.	1	.	.
$891072_1 = \chi_{108}$	.	.	.	1	1	.
$1021020_1 = \chi_{114}$	.	.	1	.	.	1
$1361360_4 = \chi_{129}$	.	.	.	.	1	1

$$\begin{aligned} \varphi_9 &= 1820_1 \\ \varphi_{14} &= 4368_1 \\ \varphi_{57} &= 146692_1 \\ \varphi_{89} &= 404040_1 \\ \varphi_{95} &= 487032_1 \\ \varphi_{108} &= 874328_1 \end{aligned}$$

<b>Block 6:</b>	$\varphi_{10}$	$\varphi_{12}$	$\varphi_{61}$	$\varphi_{84}$	$\varphi_{97}$	$\varphi_{104}$
$3808_1 = \chi_{11}$	.	1	.	.	.	.
$6188_1 = \chi_{16}$	1	1	.	.	.	.
$157080_1 = \chi_{54}$	.	.	1	.	.	.
$340340_2 = \chi_{75}$	1	.	.	1	.	.
$742560_1 = \chi_{101}$	.	.	1	.	1	.
$1089088_3 = \chi_{121}$	.	.	.	1	.	1
$1336608_1 = \chi_{125}$	.	.	.	.	1	1

$$\begin{aligned} \varphi_{10} &= 2380_1 \\ \varphi_{12} &= 3808_1 \\ \varphi_{61} &= 157080_1 \\ \varphi_{84} &= 337960_1 \\ \varphi_{97} &= 585480_1 \\ \varphi_{104} &= 751128_1 \end{aligned}$$

<b>Block 7:</b>	$\varphi_{15}$	$\varphi_{35}$	$\varphi_{58}$	$\varphi_{117}$	$\varphi_{120}$	$\varphi_{122}$
$5236_1 = \chi_{14}$	1	.	.	.	.	.
$46410_1 = \chi_{32}$	1	1	.	.	.	.
$148512_2 = \chi_{52}$	.	.	1	.	.	.
$1361360_1 = \chi_{126}$	.	1	.	.	1	.
$1570800_1 = \chi_{133}$	.	.	1	.	.	1
$2450448_1 = \chi_{149}$	.	.	.	1	1	.
$2552550_1 = \chi_{151}$	.	.	.	1	.	1

$$\begin{aligned} \varphi_{15} &= 5236_1 \\ \varphi_{35} &= 41174_1 \\ \varphi_{58} &= 148512_1 \\ \varphi_{117} &= 1130262_1 \\ \varphi_{120} &= 1320186_1 \\ \varphi_{122} &= 1422288_1 \end{aligned}$$

<b>Block 8:</b>	$\varphi_{16}$	$\varphi_{34}$	$\varphi_{51}$	$\varphi_{94}$	$\varphi_{101}$	$\varphi_{126}$
$5355_1 = \chi_{15}$	1	.	.	.	.	.
$38675_1 = \chi_{31}$	.	1	.	.	.	.
$123760_2 = \chi_{45}$	1	.	1	.	.	.
$523600_1 = \chi_{85}$	.	1	.	1	.	.
$850850_1 = \chi_{107}$	.	.	1	.	1	.
$2475200_1 = \chi_{150}$	.	.	.	1	.	1
$2722720_1 = \chi_{153}$	.	.	.	.	1	1

$$\begin{aligned} \varphi_{16} &= 5355_1 \\ \varphi_{34} &= 38675_1 \\ \varphi_{51} &= 118405_1 \\ \varphi_{94} &= 484925_1 \\ \varphi_{101} &= 732445_1 \\ \varphi_{126} &= 1990275_1 \end{aligned}$$

<b>Block 9:</b>	$\varphi_{23}$	$\varphi_{81}$	$\varphi_{105}$
$17017_1 = \chi_{23}$	1	.	.
$340340_1 = \chi_{74}$	1	1	.
$765765_1 = \chi_{103}$	.	.	1
$765765_2 = \chi_{104}$	.	.	1
$1089088_2 = \chi_{120}$	.	1	1

$$\begin{aligned} \varphi_{23} &= 17017_1 \\ \varphi_{81} &= 323323_1 \\ \varphi_{105} &= 765765_1 \end{aligned}$$

<b>Block 10:</b>	$\varphi_{26}$	$\varphi_{43}$	$\varphi_{72}$	$\varphi_{80}$	$\varphi_{99}$	$\varphi_{121}$
$20944_1 = \chi_{26}$	1	.	.	.	.	.
$74256_1 = \chi_{38}$	.	1	.	.	.	.
$327250_1 = \chi_{72}$	.	1	1	.	.	.
$618800_1 = \chi_{92}$	1	.	.	.	1	.
$918918_1 = \chi_{110}$	.	.	.	1	1	.
$1633632_1 = \chi_{135}$	.	.	1	.	.	1
$1701700_2 = \chi_{138}$	.	.	.	1	.	1

$$\begin{aligned} \varphi_{26} &= 20944_1 \\ \varphi_{43} &= 74256_1 \\ \varphi_{72} &= 252994_1 \\ \varphi_{80} &= 321062_1 \\ \varphi_{99} &= 597856_1 \\ \varphi_{121} &= 1380638_1 \end{aligned}$$

<b>Block 11:</b>	$\varphi_{27}$	$\varphi_{42}$	$\varphi_{56}$	$\varphi_{87}$	$\varphi_{112}$	$\varphi_{118}$
$24752_1 = \chi_{27}$	1	.	.	.	.	.
$68068_1 = \chi_{36}$	.	1	.	.	.	.
$170170_1 = \chi_{56}$	1	.	1	.	.	.
$544544_1 = \chi_{86}$	.	.	1	1	.	.
$1361360_2 = \chi_{127}$	.	1	.	.	.	1
$1361360_3 = \chi_{128}$	.	.	.	1	1	.
$2255526_1 = \chi_{144}$	.	.	.	.	1	1

$$\begin{aligned} \varphi_{27} &= 24752_1 \\ \varphi_{42} &= 68068_1 \\ \varphi_{56} &= 145418_1 \\ \varphi_{87} &= 399126_1 \\ \varphi_{112} &= 962234_1 \\ \varphi_{118} &= 1293292_1 \end{aligned}$$



<b>Block 13:</b>	$\varphi_{32}$	$\varphi_{39}$	$\varphi_{55}$	$\varphi_{64}$	$\varphi_{67}$	$\varphi_{93}$
$35700_1 = \chi_{29}$	1	.	.	.	.	.
$204204_1 = \chi_{58}$	.	1	1	.	.	.
$205632_1 = \chi_{59}$	.	.	.	1	.	.
$247520_1 = \chi_{64}$	1	.	.	.	1	.
$272272_2 = \chi_{67}$	.	1	.	.	1	.
$618800_2 = \chi_{93}$	.	.	1	.	.	1
$680680_1 = \chi_{96}$	.	.	.	1	.	1

$$\begin{aligned} \varphi_{32} &= 35700_1 \\ \varphi_{39} &= 60452_1 \\ \varphi_{55} &= 143752_1 \\ \varphi_{64} &= 205632_1 \\ \varphi_{67} &= 211820_1 \\ \varphi_{93} &= 475048_1 \end{aligned}$$

<b>Block 14:</b>	$\varphi_{40}$	$\varphi_{41}$	$\varphi_{44}$	$\varphi_{66}$	$\varphi_{86}$	$\varphi_{102}$
$62832_1 = \chi_{34}$	.	1	.	.	.	.
$123760_1 = \chi_{44}$	1	1	.	.	.	.
$136136_1 = \chi_{49}$	1	.	1	.	.	.
$209440_1 = \chi_{60}$	.	.	.	1	.	.
$556920_1 = \chi_{87}$	.	.	.	1	1	.
$816816_1 = \chi_{105}$	.	.	1	.	.	1
$1089088_1 = \chi_{119}$	.	.	.	.	1	1

$$\begin{aligned} \varphi_{40} &= 60928_1 \\ \varphi_{41} &= 62832_1 \\ \varphi_{44} &= 75208_1 \\ \varphi_{66} &= 209440_1 \\ \varphi_{86} &= 347480_1 \\ \varphi_{102} &= 741608_1 \end{aligned}$$