Daniel Cu Sánchez
A01703613

Ejercicio 10

	A	B	C
A	**0.9**	**0.1**	**0**
B	**0.1**	**0.6**	**0.3**
C	**0**	**0.3**	**0.7**

Ejercicio 11

	A	B	C
A	**0.6**	**0.2**	**0.2**
B	**0.9**	**0.02**	**0.08**
C	**0.4**	**0**	**0.6**

Ejercicio 15

	1	2	3
1	**0.8**	**0.1**	**0.1**
2	**0.3**	**0.6**	**0.1**
3	**0**	**1**	**0**

Ejercicio 71

71. ***Criminology*** A study of male criminals in Philadelphia found that the probability that one type of offense is fol-

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lowed by another type can be described by the following transition matrix.*

	Nonindex	Injury	Theft	Damage	Combination
Nonindex	0.645	0.099	0.152	0.033	0.071
Injury	0.611	0.138	0.128	0.033	0.090
Theft	0.514	0.067	0.271	0.030	0.118
Damage	0.609	0.107	0.178	0.064	0.042
Combination	0.523	0.093	0.183	0.022	0.179

a. For a criminal who commits theft, what is the probability that his next crime is also a theft?

b. For a criminal who commits theft, what is the probability that his second crime after that is also a theft?

c. If these trends continue, what are the long-term probabilities for each type of crime?

$$\begin{pmatrix} 0{,}645 & 0{,}099 & 0{,}152 & 0{,}033 & 0{,}071 \\ 0{,}611 & 0{,}138 & 0{,}128 & 0{,}033 & 0{,}090 \\ 0{,}514 & 0{,}067 & 0{,}271 & 0{,}030 & 0{,}118 \\ 0{,}609 & 0{,}107 & 0{,}178 & 0{,}064 & 0{,}042 \\ 0{,}523 & 0{,}093 & 0{,}183 & 0{,}022 & 0{,}179 \end{pmatrix}^{10} = \begin{pmatrix} 0{,}607 & 0{,}097 & 0{,}174 & 0{,}032 & 0{,}090 \\ 0{,}607 & 0{,}097 & 0{,}174 & 0{,}032 & 0{,}090 \\ 0{,}607 & 0{,}097 & 0{,}174 & 0{,}032 & 0{,}090 \\ 0{,}607 & 0{,}097 & 0{,}174 & 0{,}032 & 0{,}090 \\ 0{,}607 & 0{,}097 & 0{,}174 & 0{,}032 & 0{,}090 \end{pmatrix}$$