R語言與資料分析 作業2

1. 利用R語言

(a)生成 101, 102, …, 112, 然後存到向量**x中**

(b)生成一數列重覆(4, 6, 3)4次

(c)生成一數列包含8個4, 7個6, 9個3, 然後存到6列4行的矩陣**中**

(d)建立一個向量包含1個1, 2個2, 3個3,…, 到9個9

1. 利用R語言

令 , ,

,

(a) 求

(b) 求

(c) 求

(d) 求

(e) 求

(f) 求

(g) 求

(h) 求

(i) 求

3. 下表是20個動物的6種屬性. 編碼1=是, 2=否. 資料中有遺漏值. 下面是變數的敘述:

**war**

is the animal warm blooded? 動物是否為暖血動物？

**fly**

does the animal fly? 動物是否會飛？

**ver**

is the animal a vertebrate? 動物是否為脊椎動物？

**end**

is the animal endangered? 動物是否瀕臨危險？

**gro**

does the animal live in social groups? 動物是否生活在社會群體？

**hai**

is the animal hairy? 動物是否有毛？Note that bees, caterpillars, spiders are considered hairy.

The row names are names or abbreviations for the animals: ant - ant, bee - bee, cat - cat, cpl - caterpillar, chi - chimpanzee, cow - cow, duc - duck, eag - eagle, ele - elephant, fly - fly, fro - frog, her - hermit crab, lio - lion, liz - lizard, lob - lobster, man - man, rab - rabbit, sal - salamander, spi - spider, wha - whale.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| name | war | fly | ver | end | gro | hai |
| ant | 1 | 1 | 1 | 1 | 2 | 1 |
| bee | 1 | 2 | 1 | 1 | 2 | 2 |
| cat | 2 | 1 | 2 | 1 | 1 | 2 |
| cpl | 1 | 1 | 1 | 1 | 1 | 2 |
| chi | 2 | 1 | 2 | 2 | 2 | 2 |
| cow | 2 | 1 | 2 | 1 | 2 | 2 |
| duc | 2 | 2 | 2 | 1 | 2 | 1 |
| eag | 2 | 2 | 2 | 2 | 1 | 1 |
| ele | 2 | 1 | 2 | 2 | 2 | 1 |
| fly | 1 | 2 | 1 | 1 | 1 | 1 |
| fro | 1 | 1 | 2 | 2 | NA | 1 |
| her | 1 | 1 | 2 | 1 | 2 | 1 |
| lio | 2 | 1 | 2 | NA | 2 | 2 |
| liz | 1 | 1 | 2 | 1 | 1 | 1 |
| lob | 1 | 1 | 1 | 1 | NA | 1 |
| man | 2 | 1 | 2 | 2 | 2 | 2 |
| rab | 2 | 1 | 2 | 1 | 2 | 2 |
| sal | 1 | 1 | 2 | 1 | NA | 1 |
| spi | 1 | 1 | 1 | NA | 1 | 2 |
| wha | 2 | 1 | 2 | 2 | 2 | 1 |

1. 計算下面次數與百分比

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | 暖血 | 飛 | 脊椎 | 瀕危 | 群體 | 多毛 |
| 是 |  |  |  |  |  |  |
| 否 |  |  |  |  |  |  |
| 百分比 |  |  |  |  |  |  |