

Student	Jake Russell	31+51 = 82
---------	--------------	------------

Part 1

	Available	Marks
Create a vector <i>v1</i> that contains the values 1 to 12.	2	2
Add the values 13 to 16 to the end of <i>v1</i> .	2	2
Using <i>v1</i> , create a new vector <i>v2</i> that contains the 1 st to 7 th and 12 th to 16 th elements of <i>v1</i> .	3	0
Calculate <i>v1+v2</i> and display the results. This will generate a warning; in your comments, explain how R adds two vectors of different lengths.	4	4
Create a new vector <i>v3</i> by selecting all even elements of <i>v1</i> using a filter.	2	2
Create a matrix <i>m1</i> with 4 rows from vector <i>v1</i> .	3	3
Create a matrix <i>m2</i> with 3 columns from vector <i>v2</i> .	3	3
Create and display a new matrix <i>m3</i> from <i>m1</i> and <i>m2</i> where <i>m3</i> contains all of the columns of both source matrices.	4	0
Label the columns of <i>m3</i> as "a", "b", "c", "d", "e", "f" and "g".	2	2
Remove row 3 from <i>m3</i> .	3	3
Calculate and display the means of each column.	4	4
Create a barplot of row 1 of <i>m3</i> .	3	2
Commenting and use of white space	5	4
Comments Good commenting, but you need more white space to separate the questions to make them easier to read. It's also a good idea to display the vectors and matrices after you have created them in order to check that they're correct. You've created a vector containing the 1st, 7th, 12 and 16th elements, not the two ranges. Your code should be <code>v3<-c(v1[1:7],v1[12:16])</code>. As your <i>v2</i> is too short, this has caused problems creating <i>m2</i>. Your syntax for <i>m2</i> is fine though. Your <i>m3</i> contains the data for <i>m1</i> and <i>m2</i>, but not the columns. To add columns use <code>cbind()</code>, not <code>matrix()</code>. Good use of <code>apply()</code>. Good basic barplot; have a look at the <code>barplot()</code> help files for how to add titles etc.		

Part 2

	Available	Marks
Generate wondrous numbers	25	23
Fibonacci numbers and integer square roots	6	6
Creating and displaying an appropriate data frame	14	11
Updating the data frame	10	8
Commenting and use of white space	5	3
Comments Good commenting, although their positions so close to the code sometimes makes it difficult to quickly see what is code and what is comment. It also helps to use white space to separate out the different sections of the code more clearly. Good generation of sequences. Nice use of Binet's formula. 😊 The column you've called "IntegerSqrt" should be "Integer Sqrt", which requires you to define column names for the data frame rather than just using the vector names. Good use of labels to remove the Fibonacci column, but this should be replaced, rather than have the new column bound to the end. Good use of assigning to a name. Overall an excellent piece of work. Well done!		

- 0 – Nothing submitted
- 3 – Major errors and no comments
- 4 – Minor errors, code does not work
- 5 – Code works, no comments
- 6 – Code works, minor comments
- 7 – Code works, good comments
- 8+ – Elegant code, fully commented and explained