Name of Examination	LAB Final Assessment Test (FAT), Fall 2021-22 Semester, (Dec 21)		
Slot: L57+L58	Course Mode : Regular	Class Number (s): VL2021220104643	
Course Code:	CSE3020	Course Title:	Data Visualisation
Emp. No.:	17029	Faculty:	Vengadeswaran s	School: SCOPE
Contact No.:	9944174949	Email:	vengadeswaran.s@vit.ac.in

For all the questions:

1. R Syntax (Include your name in comment)

2. Output Screenshot are required (Include your name in comment) – Without your name, assessment will not be evaluated.

3. **Only R Programming language with Rshiny and RFlexdashboard for dashboard is allowed for exam.** If any other programming languages, toolkits are used, assessment will not be evaluated

4. Deadline for submission: 10th-Dec-2021 (3.50 PM – 5.30 PM)

5. Output will be verified after 5.30 PM

6. Late submissions will not be considered

7. Assignment submission: VTOP (FAT)

8. Marks: 50

9. Weightage: 40

10. Plagiarism is strictly prohibited, if found guilty – evaluations will not be done

11. Single pdf/.doc file should be submitted (Roll No. and Name should be in the name of file)

Question Paper set 1

(Even registration numbers, i.e. Reg numbers ending with 0, 2, 4, 6, 8)

Coursera Data for Visualisation

The snapshot of data related to the Coursera data is given below. Complete dataset is available in Teams.

course_code	course_title	course_organization	course_Certificate_type	course_rating	course_difficulty	course_students_enrolled
743	A Crash Course in Causality: Inferring Causal Effects f	University of Pennsylvania	COURSE	4.7	Intermediate	17k
874	A Crash Course in Data Science	Johns Hopkins University	COURSE	4.5	Mixed	130k
413	A Law Student's Toolkit	Yale University	COURSE	4.7	Mixed	91k
635	A Life of Happiness and Fulfillment	Indian School of Business	COURSE	4.8	Mixed	320k
661	ADHD: Everyday Strategies for Elementary Students	University at Buffalo	COURSE	4.7	Beginner	39k
54	AI For Everyone	deeplearning.ai	COURSE	4.8	Beginner	350k
488	AI For Medical Treatment	deeplearning.ai	COURSE	4.8	Intermediate	2.4k
58	AI Foundations for Everyone	IBM	SPECIALIZATION	4.7	Beginner	61k
129	AI for Medical Diagnosis	deeplearning.ai	COURSE	4.7	Intermediate	12k
283	AI for Medical Prognosis	deeplearning.ai	COURSE	4.6	Intermediate	4k
35	AI for Medicine	deeplearning.ai	SPECIALIZATION	4.7	Intermediate	13k
43	AWS Fundamentals	Amazon Web Services	SPECIALIZATION	4.6	Beginner	130k
631	AWS Fundamentals: Addressing Security Risk	Amazon Web Services	COURSE	4.3	Beginner	11k
861	AWS Fundamentals: Building Serverless Applications	Amazon Web Services	COURSE	4.7	Beginner	27k
281	AWS Fundamentals: Going Cloud-Native	Amazon Web Services	COURSE	4.7	Beginner	110k
828	AWS Fundamentals: Migrating to the Cloud	Amazon Web Services	COURSE	4.5	Intermediate	13k
819	Aboriginal Worldviews and Education	University of Toronto	COURSE	4.7	Mixed	6.6k
63	Academic English: Writing	University of California, Irvine	SPECIALIZATION	4.7	Beginner	540k
142	Accelerated Computer Science Fundamentals	University of Illinois at Urbana-(	SPECIALIZATION	4.7	Intermediate	22k
604	Accounting Analytics	University of Pennsylvania	COURSE	4.5	Mixed	80k
727	Accounting for Decision Making	University of Michigan	COURSE	4.8	Intermediate	9.9k
51	Achieving Personal and Professional Success	University of Pennsylvania	SPECIALIZATION	4.7	Beginner	110k
330	Addiction Treatment: Clinical Skills for Healthcare Pro	Yale University	COURSE	4.8	Beginner	9.2k
247	Advanced Business Analytics	University of Colorado Boulder	SPECIALIZATION	4.5	Intermediate	78k
157	Advanced Data Science with IBM	IBM	SPECIALIZATION	4.4	Advanced	320k
103	Advanced Machine Learning	National Research University Hig	SPECIALIZATION	4.5	Advanced	190k
324	Advanced Machine Learning with TensorFlow on Goc	Google Cloud	SPECIALIZATION	4.5	Advanced	35k
266	Advanced Valuation and Strategy - M&A, Private Equit	Erasmus University Rotterdam	COURSE	4.7	Advanced	29k
825	Advertising and Society	Duke University	COURSE	4.8	Mixed	14k
853	Age of Cathedrals	Yale University	COURSE	4.7	Beginner	21k

Considering yourself as a visualisation designer, design a visualisation to effectively convey required information to a general audience.

Implement a visual dashboard using Rshiny/flex dashboard, (15 marks)

The dashboard should contain the following

1. Represent the dataset as a Table which must contain only course_title, course_rating, course_students_enrolled   **(5 marks)**

2. Design an effective representation which provides information about course_organisation with number of courses provided – Use appropriate graph with suitable marks and channels   **(10 marks)**

3. **Statement:** The greater number of students enrolled in a course, the course rating is higher – Whether the statement is True or False? Can you validate the statement using Graphs and Analytics?   **(10 marks)**

4. Generate a tag cloud for the inference obtained from Question (2) & (3), the tag cloud should contain only 6 words with minimum frequency of two and words should have both horizontal and vertical representation   **(10 marks)**

***** All the best *****

Question Paper set 2

(Odd registration numbers, i.e. Reg numbers ending with 1, 3, 5, 7, 9)

Coursera Data for Visualisation

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631	AWS Fundamentals: Addressing Security Risk	Amazon Web Services	COURSE	4.3	Beginner	11k
861	AWS Fundamentals: Building Serverless Applications	Amazon Web Services	COURSE	4.7	Beginner	27k
281	AWS Fundamentals: Going Cloud-Native	Amazon Web Services	COURSE	4.7	Beginner	110k
828	AWS Fundamentals: Migrating to the Cloud	Amazon Web Services	COURSE	4.5	Intermediate	13k
819	Aboriginal Worldviews and Education	University of Toronto	COURSE	4.7	Mixed	6.6k
63	Academic English: Writing	University of California, Irvine	SPECIALIZATION	4.7	Beginner	540k
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266	Advanced Valuation and Strategy - M&A, Private Equit	Erasmus University Rotterdam	COURSE	4.7	Advanced	29k
825	Advertising and Society	Duke University	COURSE	4.8	Mixed	14k
853	Age of Cathedrals	Yale University	COURSE	4.7	Beginner	21k

Considering yourself as a visualisation designer, design a visualisation to effectively convey required information to a general audience.

Implement a visual dashboard using Rshiny/Flex dashboard, (15 marks)

The dashboard should contain the following

1. Represent the dataset as a Table which must contain only course_title, course_organisation, course_rating (5 marks)

2. Design an effective representation which provides information about course_organisation with number of courses provided – Use appropriate graph with suitable marks and channels (10 marks)

3. Design an effective representation which provides grouping behaviour on course organisation based on course_certificate_type? Represent using Analytics – clustering technique. (10 marks)

4. Generate a tag cloud for the inference obtained from Question (2) & (3), the tag cloud should contain only 6 words with minimum frequency of two and words should have both horizontal and vertical representation (10 marks)

***** All the best *****