Started on	Tuesday, 25 February 2025, 9:04 AM
State	Finished
Completed on	Tuesday, 25 February 2025, 10:49 AM
Time taken	1 hour 45 mins
Grade	**39.75** out of 100.00

Question **1**

Partially correct

Mark 2.34 out of 12.00

Suppose that you have the following results of survey. Now it is necessary to analyze obtained survey by using Simple Random Sampling and Stratified Random Sampling. Recommended tool for using is MS Excel.

(Ignore the fpc and the clustering in calculating the standard error.)

P.S. when you are going to write your answer into answer sheet, please round up to 2 digits after floating point

1) Assume that you're going to do Simple Random Sampling (SRS) for above dataset.

Compute a mean: [3] ✗ [9] ✗ [,] ✓ [8] ✗

P.S here you need to drag-and-drop digit-by-digit. For example, if your answer is 35.13 then you need to drag 3, then 5, then . and then 1 and 3

2) Compute a standard error for SRS: [5] ✗ [6] ✗ [,] ✗ [8] ✗

3) Now compute 95% of confidence interval. Please note that t-value in this case is equal to 2.04

Upper limit for SRS: [5] ✗ [1] ✗ [,] ✓ [4] ✗ [1] ✗

Lower limit for SRS: [2] ✗ [8] ✗ [,] ✓ [2] ✗ [3] ✗

P.S You need to take **rounded** answers from 1st and 2nd questions

Now for Stratified part

1) What is the value of W_h [4] ✗ [0] ✗ [0] ✗ [0] ✗

2) Compute a mean: [5] ✓ [0] ✓ [,] ✓ [9] ✗

3) Compute a standard error for Stratified part: [4] ✗ [7] ✗ [5] ✗

4) Compute d-value: [0] ✗ [,] ✓ [8] ✗ [3] ✗

Hint: d- value is a ratio of standard error for statified over standard error for SRS

5) Compute d-squared: [0] ✗ [,] ✓ [6] ✗ [9] ✗

6) Compute N_{eff} [9] ✗ [,] ✗ [4] ✗ [5] ✗

P.S you need to take exact anwer from 5-th step rounded up to 2 digits after floating point.

[1] [2] [3] [4] [5] [6] [7] [8] [9] [0] [,]

Your answer is partially correct.

You have correctly selected 8.
The correct answer is:
Suppose that you have the following results of survey. Now it is necessary to analyze obtained survey by using Simple Random Sampling and Stratified Random Sampling. Recommended tool for using is MS Excel.

(Ignore the fpc and the clustering in calculating the standard error.)

P.S. when you are going to write your answer into answer sheet, please round up to 2 digits after floating point

1) Assume that you're going to do Simple Random Sampling (SRS) for above dataset.

Compute a mean: [5][0][,][6]

P.S here you need to drag-and-drop digit-by-digit. For example, if your answer is 35.13 then you need to drag 3, then 5, then . and then 1 and 3

2) Compute a standard error for SRS: [6][,][8][9]

3) Now compute 95% of confidence interval. Please note that t-value in this case is equal to 2.04

Upper limit for SRS: [6][4][,][6][6]

Lower limit for SRS: [3][6][,][5][4]

P.S You need to take **rounded** answers from 1st and 2nd questions

Now for Stratified part

1) What is the value of W_h [0][,][2][5]

2) Compute a mean: [5][0][,][6]

3) Compute a standard error for Stratified part: [7][,][7]

4) Compute d-value: [1][,][1][2]
Hint: d- value is a ratio of standard error for statified over standard error for SRS

5) Compute d-squared: [1][,][2][5]
6) Compute N_{eff} [1][2][,][8]
P.S you need to take exact anwer from 5-th step rounded up to 2 digits after floating point.

Question **2**

Partially correct

Mark 1.60 out of 10.00

For attached dataset with 4 input features and 1 output feature, it is necessary to apply Normal Equation method. Optimal theta parameters(rounded up to 3 digits after floating point):

theta0 = 1 ✖ 2 ✖ , ✖ 2 ✖ 3 ✖

theta1 = 0 ✖ , ✔ 3 ✖ 5 ✖ 0 ✖

theta2 = 1 ✖ , ✖ 2 ✖ 3 ✖ 4 ✖ 0 ✖

theta3 = 0 ✖ , ✔ 4 ✖ 5 ✖ 6 ✖

theta4 = 0 ✔ , ✔ 7 ✖ 8 ✖

Drag-and-drop digit-by-digit

1 2 3 4 5 6 7 8 9 0 , -

Your answer is partially correct.

You have correctly selected 4.
The correct answer is:
For attached dataset with 4 input features and 1 output feature, it is necessary to apply Normal Equation method. Optimal theta parameters(rounded up to 3 digits after floating point):

theta0 = [5][,][3][3][6]

theta1 = [2][,][4][6][2]

theta2 = [-][1][,][2][0][9]

theta3 = [2][,][9][1][7]

theta4 = [0][,][8][3]

Drag-and-drop digit-by-digit

Question **3**

Partially correct

Mark 1.38 out of 10.00

Suppose that you're going to run logistic regression with 3 input features and 1 output feature. Your hypothesis is linear with sigmoid activation function.

Initial theta parameters is equal to zero. Learning rate is 0.01. Now, let's complete the following table:

#Iterations	Cost Function (Round up to 3 digits after floating point)	Optimal Theta parameter Indicate here maximum theta value(Round up to 2 digits after floating point)
n=10	2 ✗ 7 ✗ 0 ✗ , ✗ 6 ✗ 8 ✗	6 ✗ , ✓ 8 ✗ 4 ✗
n=100	6 ✗ 9 ✗ , ✗ 8 ✗ 0 ✗	9 ✗ , ✓ 9 ✗ 1 ✗
n=1000	9 ✗ , ✓ 9 ✗ 7 ✗ 0 ✗	3 ✗ , ✓ 7 ✗ 8 ✗

After 10.000 iterations and by setting threshold = 0.7, what is the number of ones in the first 20 rows of prediction:

3 ✗

1 2 3 4 5 6 7 8 9 0 ,

Your answer is partially correct.

You have correctly selected 4.

The correct answer is:

Suppose that you're going to run logistic regression with 3 input features and 1 output feature. Your hypothesis is linear with sigmoid activation function.

Initial theta parameters is equal to zero. Learning rate is 0.01. Now, let's complete the following table:

#Iterations	Cost Function (Round up to 3 digits after floating point)	Optimal Theta parameter Indicate here maximum theta value(Round up to 2 digits after floating point)
n=10	[0][,][5][9][8][1]	[0][,][0][2]
n=100	[0][,][3][4][1]	[0][,][1][9]
n=1000	[0][,][1][4][9]	[0][,][8][6]

After 10.000 iterations and by setting threshold = 0.7, what is the number of ones in the first 20 rows of prediction:

[4]

Question **4**

Partially correct

Mark 2.94 out of 10.00

Suppose that you're going to run neural network algorithm with the following parameters:

Input Layer Size: 4

2 Hidden Layer: 1st hidden layer = 5 neurons, 2nd hidden layer = 4 neurons

Output Layer Size = 1 (0 or 1)

You will be given 1 image of dog and 1 image of cat. So your output variable will be 2-dimensional vector.

As an activation function you're going to use sigmoid and his derivative. General Instruction for your Python code you can find in attached document . If you run successfully, now let me check some technical information:

a3 = [3 ✖ , ✔ 6 ✖ , 6 ✖ , ✔ 8 ✖]

a2.min() = 8 ✖ , ✔ 9 ✔ 7 ✖ 8 ✖

d_W1.min() = 3 ✖ , ✔ 7 ✖ 9 ✖ 4 ✖

General Conculsion after 100000 epochs: NN predicts image of cat ✖

1 2 3 4 5 6 7 8 9 0 ,

NN predicts image of dog

NN can't define correct image class

Your answer is partially correct.

You have correctly selected 5.
The correct answer is:
Suppose that you're going to run neural network algorithm with the following parameters:

Input Layer Size: 4

2 Hidden Layer: 1st hidden layer = 5 neurons, 2nd hidden layer = 4 neurons

Output Layer Size = 1 (0 or 1)

You will be given 1 image of dog and 1 image of cat. So your output variable will be 2-dimensional vector.

As an activation function you're going to use sigmoid and his derivative. General Instruction for your Python code you can find in attached document . If you run successfully, now let me check some technical information:

a3 = [[0][,][5], [0][,][5]]

a2.min() = [0][,][9][9][9]

d_W1.min() = [0][,][0][0][1]

General Conculsion after 100000 epochs: [NN can't define correct image class]

Question **5**

Partially correct

Mark 2.81 out of 9.00

Suppose that you have the following dataset with 2000 rows 5 input features and 1 target variable. You're going to split your dataset into 75% training set and 25% of test set. By applying LogisticRegression() method from sklearn.linear_model, please find accuracy, precision, recall and F-1 score of your proposed model.

Hint: Here, you need drag-and drop digit-by-digit. Round up to 3 digits after floating point. All of your results should be in the form of 0.145 and etc. (so I mean started with 0.)

List of necessary libraries:

```
import numpy as np
import pandas as pd
from sklearn.model_selection import train_test_split
from sklearn.linear_model import LogisticRegression
from sklearn.metrics import accuracy_score, precision_score, recall_score, f1_score
```

Accuracy: [5] ✗ [,] ✓ [7] ✗ [9] ✓ [0] ✗

Precision: [4] ✗

Recall: [8] ✗ [4] ✗ [,] ✗ [6] ✗ [0] ✗

F-1 score: [0] ✓ [,] ✓ [7] ✗ [0] ✗ [6] ✓

[1] [2] [3] [4] [5] [6] [7] [8] [9] [0] [,]

Your answer is partially correct.

You have correctly selected 5.
The correct answer is:
Suppose that you have the following dataset with 2000 rows 5 input features and 1 target variable. You're going to split your dataset into 75% training set and 25% of test set. By applying LogisticRegression() method from sklearn.linear_model, please find accuracy, precision, recall and F-1 score of your proposed model.

Hint: Here, you need drag-and drop digit-by-digit. Round up to 3 digits after floating point. All of your results should be in the form of 0.145 and etc. (so I mean started with 0.)

List of necessary libraries:

```
import numpy as np
import pandas as pd
from sklearn.model_selection import train_test_split
from sklearn.linear_model import LogisticRegression
from sklearn.metrics import accuracy_score, precision_score, recall_score, f1_score
```

Accuracy: [0][,][9][9][6]
Precision: [1]
Recall: [0][,][9][9][3]
F-1 score: [0][,][9][9][6]

Question **6**

Partially correct

Mark 7.50 out of 9.00

The Gym Management System (GMS) aims to streamline operations in a fitness center by providing an efficient platform for managing memberships, scheduling classes, tracking payments, and monitoring gym equipment. The system should be user-friendly, accessible via web and mobile devices, and support integration with third-party applications.

A:

- **Admin:** Manages the overall system, including user accounts, memberships, trainers, equipment, and financial records.
- **Trainer:** Manages training schedules, personal training sessions, and client progress.
- **Member:** Can book sessions, track attendance, update personal details, and make payments.
- **Receptionist:** Manages member registrations, payment processing, and inquiries.

B:

- Users should be able to register and manage their accounts easily.
- Members should be able to book classes and personal training sessions online.
- The system should provide notifications and reminders for scheduled sessions.
- Payments should be processed securely through multiple payment gateways.
- Trainers should be able to monitor client progress and provide feedback.
- The system should allow tracking and maintenance scheduling for gym equipment.
- Members should be able to access their workout and diet plans.
- The system should generate reports for administrators on financial transactions, membership statistics, and trainer schedules.

C:

- Cloud-based infrastructure for accessibility.
- Secure database storage with encrypted user data.
- Role-based access control (RBAC) for different user types.
- API integration with third-party fitness apps.
- Automated membership renewal and billing.

D:

- The system must support at least 500 concurrent users.
- Data storage should comply with GDPR and PCI DSS standards.
- The system should have an uptime of 99.5%.

E:

- Users must be able to create, update, and delete accounts.
- Admins should have the ability to approve or deactivate user accounts.
- Role-based access control must be implemented.

F:

- Members should be able to sign up, renew, and cancel memberships.
- The system should send reminders for expiring memberships.
- Different membership plans should be configurable.

A:	**User Roles**	✔
B:	**User Requirements**	✔
C:	**System Features**	✔
D:	**Operational Constrains**	✔
E:	**Security Requirements**	✖
F:	**Membership Management**	✔

Class Scheduling	User Roles	Equipment Management	Payment Processing
Security Requirements	Membership Management	User Requirements	Operational Constrains
User Management	Compatibility Requirements	System Features	

Your answer is partially correct.

You have correctly selected 5.
The correct answer is:

The Gym Management System (GMS) aims to streamline operations in a fitness center by providing an efficient platform for managing memberships, scheduling classes, tracking payments, and monitoring gym equipment. The system should be user-friendly, accessible via web and mobile devices, and support integration with third-party applications.

A:
- **Admin:** Manages the overall system, including user accounts, memberships, trainers, equipment, and financial records.
- **Trainer:** Manages training schedules, personal training sessions, and client progress.
- **Member:** Can book sessions, track attendance, update personal details, and make payments.
- **Receptionist:** Manages member registrations, payment processing, and inquiries.

B:
- Users should be able to register and manage their accounts easily.
- Members should be able to book classes and personal training sessions online.
- The system should provide notifications and reminders for scheduled sessions.
- Payments should be processed securely through multiple payment gateways.
- Trainers should be able to monitor client progress and provide feedback.
- The system should allow tracking and maintenance scheduling for gym equipment.
- Members should be able to access their workout and diet plans.
- The system should generate reports for administrators on financial transactions, membership statistics, and trainer schedules.

C:
- Cloud-based infrastructure for accessibility.
- Secure database storage with encrypted user data.
- Role-based access control (RBAC) for different user types.
- API integration with third-party fitness apps.
- Automated membership renewal and billing.

D:
- The system must support at least 500 concurrent users.
- Data storage should comply with GDPR and PCI DSS standards.
- The system should have an uptime of 99.5%.

E:
- Users must be able to create, update, and delete accounts.
- Admins should have the ability to approve or deactivate user accounts.
- Role-based access control must be implemented.

F:
- Members should be able to sign up, renew, and cancel memberships.
- The system should send reminders for expiring memberships.
- Different membership plans should be configurable.

A: [User Roles]
B: [User Requirements]
C: [System Features]
D: [Operational Constrains]
E: [User Management]
F: [Membership Management]

Question **7**

Partially correct

Mark 3.53 out of 12.00

Suppose that you have the following dataset. In this task you're going to analyze categorical variables, namely standard error, adjusted SE, 95% CI and 95% adjusted CI and also design effect ratio. Please read carefully attached methodology and by using Python find an answer for the following questions:

Race/Ethnicity	n	Estimated Proportion	Standard Error	Adjusted SE (Clustering)
White	1 , 4 9	0 , 4 9	8 , 1 9	0 , 8 8
Black	1 , 2	0 , 7 9	2 9 , 9	0 , 2 1

Race/Ethnicity	95% CI	95% CI (Adjusted)	Design Effect
White	5 , 8 8 and 2 0 8 4	7 , 9 7 and 8 4 , 9	9 , 9 1
Black	7 6 8 and 9 , 9 0	4 , 7 and 7 , 7 8	6 , 7

1 2 3 4 5 6 7 8 9 0 ,

Your answer is partially correct.

You have correctly selected 20.

The correct answer is:

Suppose that you have the following dataset. In this task you're going to analyze categorical variables, namely standard error, adjusted SE, 95% CI and 95% adjusted CI and also design effect ratio. Please read carefully attached methodology and by using Python find an answer for the following questions:

Race/Ethnicity	n	Estimated Proportion	Standard Error	Adjusted SE (Clustering)
White	[1][0][7][2]	[0][,][7][1]	[0][,][0][1]	[0][,][0][1]
Black	[1][7][5]	[0][,][1][2]	[0][,][0][1]	[0][,][0][1]

Race/Ethnicity	95% CI	95% CI (Adjusted)	Design Effect
White	[0][,][6][9] and [0][,][7][4]	[0][,][6][9] and [0][,][7][4]	[1][,][0][8]
Black	[0][,][1] and [0][,][1][3]	[0][,][1] and [0][,][1][3]	[1][,][1]

Question **8**

Partially correct

Mark 5.14 out of 9.00

In this question you can see 1 code example that incorporate different naming conventions. Please match variables' name with correct naming conventions.

private string strTitle; Hungarian ✔

private string strISBN; Hungarian ✖

public string Author { get { return strAuthor; } set { strAuthor = value; } } Pascal ✔

private string strAuthor; Hungarian ✔

public string ISBN { get { return strISBN; } set { strISBN = value; } } Acronyms ✖

public void ExportLibraryData Pascal ✖

XmlWriterSettings settings = new XmlWriterSettings { Indent = true }; Acronyms ✔

Acronyms | Pascal | Hungarian

Your answer is partially correct.

You have correctly selected 4.
The correct answer is:
In this question you can see 1 code example that incorporate different naming conventions. Please match variables' name with correct naming conventions.

private string strTitle; [Hungarian]

private string strISBN; [Acronyms]

public string Author { get { return strAuthor; } set { strAuthor = value; } } [Pascal]

private string strAuthor; [Hungarian]

public string ISBN { get { return strISBN; } set { strISBN = value; } } [Pascal]

public void ExportLibraryData [Acronyms]

XmlWriterSettings settings = new XmlWriterSettings { Indent = true }; [Acronyms]

Question **9**

Partially correct

Mark 4.50 out of 9.00

This question is related to Software Testing. Please read carefully attached document, and define correct Test case type.

A	Unit Test	✔
B	System Testing	✖
class TestOrderProcessing	Regression Test	✖
class TestInventoryOperations	Unit Test	✔

Your answer is partially correct.

You have correctly selected 2.
The correct answer is:
A → Unit Test,

B → Regression Test,

class TestOrderProcessing → Unit Test,

class TestInventoryOperations → Unit Test

Question **10**

Partially correct

Mark 8.00 out of 10.00

Suppose that you have the following GUI Mockups for Hotel Booking System. Please run HTML+CSS codes in attached documents and define ("do we have some problem with mockups, if no problem - indicate Good Case").
P.S You can use the following website for running scripts: https://html-css-js.com/

A	Good Case	✔
B	Cluttered Layout & Poor Color Scheme	✔
C	Overcomplicated Search and Filtering Options	✖
D	Too Many Fonts & Distracting Animations	✔
E	Broken Usability & Hidden Elements	✔

Your answer is partially correct.

You have correctly selected 4.
The correct answer is:
A → Good Case,

B → Cluttered Layout & Poor Color Scheme,

C → Overlapping Elements & Misaligned Layout,

D → Too Many Fonts & Distracting Animations,

E → Broken Usability & Hidden Elements

◄ Lecture 9

Jump to...

Final Exam Preparation ►

Started on	Tuesday, 25 February 2025, 11:05 AM
State	Finished
Completed on	Tuesday, 25 February 2025, 12:40 PM
Time taken	1 hour 34 mins
Grade	**65.66** out of 100.00

Question **1**

Partially correct

Mark 7.90 out of 12.00

Suppose that you have the following results of survey. Now it is necessary to analyze obtained survey by using Simple Random Sampling and Stratified Random Sampling. Recommended tool for using is MS Excel.

(Ignore the fpc and the clustering in calculating the standard error.)

P.S. when you are going to write your answer into answer sheet, please round up to 2 digits after floating point

1) Assume that you're going to do Simple Random Sampling (SRS) for above dataset.

Compute a mean: 5 ✔ 0 ✔ , ✔ 6 ✔

P.S here you need to drag-and-drop digit-by-digit. For example, if your answer is 35.13 then you need to drag 3, then 5, then . and then 1 and 3

2) Compute a standard error for SRS: 6 ✔ , ✔ 8 ✔ 9 ✔

3) Now compute 95% of confidence interval. Please note that t-value in this case is equal to 2.04

Upper limit for SRS: 6 ✔ 4 ✔ , ✔ 6 ✔ 5 ✖

Lower limit for SRS: 3 ✔ 6 ✔ , ✔ 5 ✔ 5 ✖

P.S You need to take **rounded** answers from 1st and 2nd questions

Now for Stratified part

1) What is the value of W_h 0 ✔ , ✔ , ✖ 2 ✖

2) Compute a mean: 5 ✔ 0 ✔ , ✔ 6 ✔

3) Compute a standard error for Stratified part: 6 ✖ , ✔ 6 ✖

4) Compute d-value: 0 ✖ , ✔ 6 ✖ 9 ✖

Hint: d- value is a ratio of standard error for statified over standard error for SRS

5) Compute d-squared: 0 ✖ , ✔ 9 ✖ 1 ✖

6) Compute N_{eff} 1 ✔ 7 ✖ , ✔ 5 ✖

P.S you need to take exact anwer from 5-th step rounded up to 2 digits after floating point.

1 2 3 4 5 6 7 8 9 0 ,

Your answer is partially correct.

You have correctly selected 27.

The correct answer is:

Suppose that you have the following results of survey. Now it is necessary to analyze obtained survey by using Simple Random Sampling and Stratified Random Sampling. Recommended tool for using is MS Excel.

(Ignore the fpc and the clustering in calculating the standard error.)

P.S. when you are going to write your answer into answer sheet, please round up to 2 digits after floating point

1) Assume that you're going to do Simple Random Sampling (SRS) for above dataset.

Compute a mean: [5][0][,][6]

P.S here you need to drag-and-drop digit-by-digit. For example, if your answer is 35.13 then you need to drag 3, then 5, then . and then 1 and 3

2) Compute a standard error for SRS: [6][,][8][9]

3) Now compute 95% of confidence interval. Please note that t-value in this case is equal to 2.04

Upper limit for SRS: [6][4][,][6][6]

Lower limit for SRS: [3][6][,][5][4]

P.S You need to take **rounded** answers from 1st and 2nd questions

Now for Stratified part

1) What is the value of W_h [0][,][2][5]

2) Compute a mean: [5][0][,][6]

3) Compute a standard error for Stratified part: [7][,][7]

4) Compute d-value: [1][,][1][2]
Hint: d- value is a ratio of standard error for statified over standard error for SRS

5) Compute d-squared: [1][,][2][5]
6) Compute N_{eff} [1][2][,][8]
P.S you need to take exact anwer from 5-th step rounded up to 2 digits after floating point.

Question **2**

Correct

Mark 10.00 out of 10.00

For attached dataset with 4 input features and 1 output feature, it is necessary to apply Normal Equation method. Optimal theta parameters(rounded up to 3 digits after floating point):

theta0 = 5 ✔ , ✔ 3 ✔ 3 ✔ 6 ✔

theta1 = 2 ✔ , ✔ 4 ✔ 6 ✔ 2 ✔

theta2 = - ✔ 1 ✔ , ✔ 2 ✔ 0 ✔ 9 ✔

theta3 = 2 ✔ , ✔ 9 ✔ 1 ✔ 7 ✔

theta4 = 0 ✔ , ✔ 8 ✔ 3 ✔

Drag-and-drop digit-by-digit

1 2 3 4 5 6 7 8 9 0 , -

Your answer is correct.

The correct answer is:
For attached dataset with 4 input features and 1 output feature, it is necessary to apply Normal Equation method. Optimal theta parameters(rounded up to 3 digits after floating point):

theta0 = [5][,][3][3][6]

theta1 = [2][,][4][6][2]

theta2 = [-][1][,][2][0][9]

theta3 = [2][,][9][1][7]

theta4 = [0][,][8][3]

Drag-and-drop digit-by-digit

Question **3**

Partially correct

Mark 5.17 out of 10.00

Suppose that you're going to run logistic regression with 3 input features and 1 output feature. Your hypothesis is linear with sigmoid activation function.

Initial theta parameters is equal to zero. Learning rate is 0.01. Now, let's complete the following table:

#Iterations	Cost Function (Round up to 3 digits after floating point)	Optimal Theta parameter Indicate here maximum theta value(Round up to 2 digits after floating point)
n=10	0 ✔ , ✔ 6 ✖ 7 ✖ 9 ✖ 0 ✖	0 ✔ , ✔ 0 ✔ 1 ✖
n=100	0 ✔ , ✔ 5 ✖ 7 ✖ 4 ✖	0 ✔ , ✔ 1 ✔ 1 ✖
n=1000	0 ✔ , ✔ 2 ✖ 8 ✖ 9 ✔	0 ✔ , ✔ 6 ✖ 9 ✖

After 10.000 iterations and by setting threshold = 0.7, what is the number of ones in the first 20 rows of prediction:

5 ✖

1 2 3 4 5 6 7 8 9 0 ,

Your answer is partially correct.

You have correctly selected 15.

The correct answer is:

Suppose that you're going to run logistic regression with 3 input features and 1 output feature. Your hypothesis is linear with sigmoid activation function.

Initial theta parameters is equal to zero. Learning rate is 0.01. Now, let's complete the following table:

#Iterations	Cost Function (Round up to 3 digits after floating point)	Optimal Theta parameter Indicate here maximum theta value(Round up to 2 digits after floating point)
n=10	[0][,][5][9][8][1]	[0][,][0][2]
n=100	[0][,][3][4][1]	[0][,][1][9]
n=1000	[0][,][1][4][9]	[0][,][8][6]

After 10.000 iterations and by setting threshold = 0.7, what is the number of ones in the first 20 rows of prediction:

[4]

Question **4**

Partially correct

Mark 5.29 out of 10.00

Suppose that you're going to run neural network algorithm with the following parameters:

Input Layer Size: 4

2 Hidden Layer: 1st hidden layer = 5 neurons, 2nd hidden layer = 4 neurons

Output Layer Size = 1 (0 or 1)

You will be given 1 image of dog and 1 image of cat. So your output variable will be 2-dimensional vector.

As an activation function you're going to use sigmoid and his derivative. General Instruction for your Python code you can find in attached document . If you run successfully, now let me check some technical information:

a3 = [0 ✔ , ✔ 1 ✖ , 0 ✔ , ✔ 1 ✖]

a2.min() = 0 ✔ , ✔ 9 ✔ 1 ✖ 7 ✖

d_W1.min() = 5 ✖ , ✔ 0 ✔ 5 ✖ 4 ✖

General Conculsion after 100000 epochs: NN predicts image of dog ✖

1 2 3 4 5 6 7 8 9 0 ,

NN predicts image of cat | NN can't define correct image class

Your answer is partially correct.

You have correctly selected 9.

The correct answer is:

Suppose that you're going to run neural network algorithm with the following parameters:

Input Layer Size: 4

2 Hidden Layer: 1st hidden layer = 5 neurons, 2nd hidden layer = 4 neurons

Output Layer Size = 1 (0 or 1)

You will be given 1 image of dog and 1 image of cat. So your output variable will be 2-dimensional vector.

As an activation function you're going to use sigmoid and his derivative. General Instruction for your Python code you can find in attached document . If you run successfully, now let me check some technical information:

a3 = [[0][,][5], [0][,][5]]

a2.min() = [0][,][9][9][9]

d_W1.min() = [0][,][0][0][1]

General Conculsion after 100000 epochs: [NN can't define correct image class]

Question **5**

Partially correct

Mark 8.44 out of 9.00

Suppose that you have the following dataset with 2000 rows 5 input features and 1 target variable. You're going to split your dataset into 75% training set and 25% of test set. By applying LogisticRegression() method from sklearn.linear_model, please find accuracy, precision, recall and F-1 score of your proposed model.

Hint: Here, you need drag-and drop digit-by-digit. Round up to 3 digits after floating point. All of your results should be in the form of 0,145 and etc. (so I mean started with 0,)

List of necessary libraries:

```
import numpy as np
import pandas as pd
from sklearn.model_selection import train_test_split
from sklearn.linear_model import LogisticRegression
from sklearn.metrics import accuracy_score, precision_score, recall_score, f1_score
```

Accuracy: [0] ✔ [,] ✔ [9] ✔ [9] ✔ [6] ✔

Precision: [1] ✔

Recall: [0] ✔ [,] ✔ [9] ✔ [9] ✔ [6] ✖

F-1 score: [0] ✔ [,] ✔ [9] ✔ [9] ✔ [6] ✔

[1] [2] [3] [4] [5] [6] [7] [8] [9] [0] [,]

Your answer is partially correct.

You have correctly selected 15.
The correct answer is:

Suppose that you have the following dataset with 2000 rows 5 input features and 1 target variable. You're going to split your dataset into 75% training set and 25% of test set. By applying LogisticRegression() method from sklearn.linear_model, please find accuracy, precision, recall and F-1 score of your proposed model.

Hint: Here, you need drag-and drop digit-by-digit. Round up to 3 digits after floating point. All of your results should be in the form of 0,145 and etc. (so I mean started with 0,)

List of necessary libraries:

```
import numpy as np
import pandas as pd
from sklearn.model_selection import train_test_split
from sklearn.linear_model import LogisticRegression
from sklearn.metrics import accuracy_score, precision_score, recall_score, f1_score
```

Accuracy: [0][,][9][9][6]
Precision: [1]
Recall: [0][,][9][9][3]
F-1 score: [0][,][9][9][6]

Question **6**

Correct

Mark 9.00 out of 9.00

The Gym Management System (GMS) aims to streamline operations in a fitness center by providing an efficient platform for managing memberships, scheduling classes, tracking payments, and monitoring gym equipment. The system should be user-friendly, accessible via web and mobile devices, and support integration with third-party applications.

A:

- **Admin:** Manages the overall system, including user accounts, memberships, trainers, equipment, and financial records.
- **Trainer:** Manages training schedules, personal training sessions, and client progress.
- **Member:** Can book sessions, track attendance, update personal details, and make payments.
- **Receptionist:** Manages member registrations, payment processing, and inquiries.

B:

- Users should be able to register and manage their accounts easily.
- Members should be able to book classes and personal training sessions online.
- The system should provide notifications and reminders for scheduled sessions.
- Payments should be processed securely through multiple payment gateways.
- Trainers should be able to monitor client progress and provide feedback.
- The system should allow tracking and maintenance scheduling for gym equipment.
- Members should be able to access their workout and diet plans.
- The system should generate reports for administrators on financial transactions, membership statistics, and trainer schedules.

C:

- Cloud-based infrastructure for accessibility.
- Secure database storage with encrypted user data.
- Role-based access control (RBAC) for different user types.
- API integration with third-party fitness apps.
- Automated membership renewal and billing.

D:

- The system must support at least 500 concurrent users.
- Data storage should comply with GDPR and PCI DSS standards.
- The system should have an uptime of 99.5%.

E:

- Users must be able to create, update, and delete accounts.
- Admins should have the ability to approve or deactivate user accounts.
- Role-based access control must be implemented.

F:

- Members should be able to sign up, renew, and cancel memberships.
- The system should send reminders for expiring memberships.
- Different membership plans should be configurable.

A: **User Roles** ✔
B: **User Requirements** ✔
C: **System Features** ✔
D: **Operational Constrains** ✔
E: **User Management** ✔
F: **Membership Management** ✔

User Roles	Compatibility Requirements	User Management	Operational Constrains
System Features	Equipment Management	Class Scheduling	Membership Management
Security Requirements	User Requirements	Payment Processing	

Your answer is correct.

The correct answer is:

The Gym Management System (GMS) aims to streamline operations in a fitness center by providing an efficient platform for managing memberships, scheduling classes, tracking payments, and monitoring gym equipment. The system should be user-friendly, accessible via web and mobile devices, and support integration with third-party applications.

A:

- **Admin:** Manages the overall system, including user accounts, memberships, trainers, equipment, and financial records.
- **Trainer:** Manages training schedules, personal training sessions, and client progress.
- **Member:** Can book sessions, track attendance, update personal details, and make payments.
- **Receptionist:** Manages member registrations, payment processing, and inquiries.

B:

- Users should be able to register and manage their accounts easily.
- Members should be able to book classes and personal training sessions online.
- The system should provide notifications and reminders for scheduled sessions.
- Payments should be processed securely through multiple payment gateways.
- Trainers should be able to monitor client progress and provide feedback.
- The system should allow tracking and maintenance scheduling for gym equipment.
- Members should be able to access their workout and diet plans.
- The system should generate reports for administrators on financial transactions, membership statistics, and trainer schedules.

C:

- Cloud-based infrastructure for accessibility.
- Secure database storage with encrypted user data.
- Role-based access control (RBAC) for different user types.
- API integration with third-party fitness apps.
- Automated membership renewal and billing.

D:

- The system must support at least 500 concurrent users.
- Data storage should comply with GDPR and PCI DSS standards.
- The system should have an uptime of 99.5%.

E:

- Users must be able to create, update, and delete accounts.
- Admins should have the ability to approve or deactivate user accounts.
- Role-based access control must be implemented.

F:

- Members should be able to sign up, renew, and cancel memberships.
- The system should send reminders for expiring memberships.
- Different membership plans should be configurable.

A: [User Roles]
B: [User Requirements]
C: [System Features]
D: [Operational Constrains]
E: [User Management]
F: [Membership Management]

Question **7**

Correct

Mark 12.00 out of 12.00

Suppose that you have the following dataset. In this task you're going to analyze categorical variables, namely standard error, adjusted SE, 95% CI and 95% adjusted CI and also design effect ratio. Please read carefully attached methodology and by using Python find an answer for the following questions:

Race/Ethnicity	n	Estimated Proportion	Standard Error	Adjusted SE (Clustering)
White	1 ✔ 0 ✔ 7 ✔ 2 ✔	0 ✔ , ✔ 7 ✔ 1 ✔	0 ✔ , ✔ 0 ✔ 1 ✔	0 ✔ , ✔ 0 ✔ 1 ✔
Black	1 ✔ 7 ✔ 5 ✔	0 ✔ , ✔ 1 ✔ 2 ✔	0 ✔ , ✔ 0 ✔ 1 ✔	0 ✔ , ✔ 0 ✔ 1 ✔

Race/Ethnicity	95% CI	95% CI (Adjusted)	Design Effect
White	0 ✔ , ✔ 6 ✔ 9 ✔ and 0 ✔ , ✔ 7 ✔ 4 ✔	0 ✔ , ✔ 6 ✔ 9 ✔ and 0 ✔ , ✔ 7 ✔ 4 ✔	1 ✔ , ✔ 0 ✔ 8 ✔
Black	0 ✔ , ✔ 1 ✔ and 0 ✔ , ✔ 1 ✔ 3 ✔	0 ✔ , ✔ 1 ✔ and 0 ✔ , ✔ 1 ✔ 3 ✔	1 ✔ , ✔ 1 ✔

1 2 3 4 5 6 7 8 9 0 ,

Your answer is correct.

The correct answer is:

Suppose that you have the following dataset. In this task you're going to analyze categorical variables, namely standard error, adjusted SE, 95% CI and 95% adjusted CI and also design effect ratio. Please read carefully attached methodology and by using Python find an answer for the following questions:

Race/Ethnicity	n	Estimated Proportion	Standard Error	Adjusted SE (Clustering)
White	[1][0][7][2]	[0][,][7][1]	[0][,][0][1]	[0][,][0][1]
Black	[1][7][5]	[0][,][1][2]	[0][,][0][1]	[0][,][0][1]

Race/Ethnicity	95% CI	95% CI (Adjusted)	Design Effect
White	[0][,][6][9] and [0][,][7][4]	[0][,][6][9] and [0][,][7][4]	[1][,][0][8]
Black	[0][,][1] and [0][,][1][3]	[0][,][1] and [0][,][1][3]	[1][,][1]

Question **8**

Partially correct

Mark 3.86 out of 9.00

In this question you can see 1 code example that incorporate different naming conventions. Please match variables' name with correct naming conventions.

private string strTitle; Hungarian ✔

private string strISBN; Hungarian ✖

public string Author { get { return strAuthor; } set { strAuthor = value; } } Pascal ✔

private string strAuthor; Hungarian ✔

public string ISBN { get { return strISBN; } set { strISBN = value; } } Acronyms ✖

public void ExportLibraryData Pascal ✖

XmlWriterSettings settings = new XmlWriterSettings { Indent = true }; Hungarian ✖

Acronyms | Pascal | Hungarian

Your answer is partially correct.

You have correctly selected 3.

The correct answer is:

In this question you can see 1 code example that incorporate different naming conventions. Please match variables' name with correct naming conventions.

private string strTitle; [Hungarian]

private string strISBN; [Acronyms]

public string Author { get { return strAuthor; } set { strAuthor = value; } } [Pascal]

private string strAuthor; [Hungarian]

public string ISBN { get { return strISBN; } set { strISBN = value; } } [Pascal]

public void ExportLibraryData [Acronyms]

XmlWriterSettings settings = new XmlWriterSettings { Indent = true }; [Acronyms]

Question **9**

Incorrect

Mark 0.00 out of 9.00

This question is related to Software Testing. Please read carefully attached document, and define correct Test case type.

A	Unit Test	✗
B	Integration Testing	✗
class TestShoppingCart	Unit Test	✗
def test_coupon_	Unit Test	✗

Your answer is incorrect.

The correct answer is:
A → Integration Testing,

B → Functional Test,

class TestShoppingCart → Functional Test,

def test_coupon_ → Integration Testing

Question **10**

Partially correct

Mark 4.00 out of 10.00

Suppose that you have the following GUI Mockups for Gym Management System. Please run HTML+CSS codes in attached documents and define ("do we have some problem with mockups, if no problem - indicate Good Case").
P.S You can use the following website for running scripts: https://html-css-js.com/

A	Overly Busy Background & Poor Text Contrast	✗
B	Non-Responsive Fixed Layout & Overuse of Absolute Positioning	✓
C	Overcomplicated Search and Filtering Options	✗
D	Poor Information Hierarchy & Uniform Typography	✗
E	Good Case	✓

Your answer is partially correct.

You have correctly selected 2.
The correct answer is:
A → Inconsistent Navigation & Unclear Interactive Elements,

B → Non-Responsive Fixed Layout & Overuse of Absolute Positioning,

C → Poor Information Hierarchy & Uniform Typography,

D → Overly Busy Background & Poor Text Contrast,

E → Good Case

◄ Lecture 9

Jump to...

Final Exam Preparation ►

Started on	Tuesday, 25 February 2025, 2:05 PM
State	Finished
Completed on	Tuesday, 25 February 2025, 3:49 PM
Time taken	1 hour 44 mins
Grade	**79.63** out of 100.00

Question **1**

Partially correct

Mark 9.37 out of 12.00

Suppose that you have the following results of survey. Now it is necessary to analyze obtained survey by using Simple Random Sampling and Stratified Random Sampling. Recommended tool for using is MS Excel.

(Ignore the fpc and the clustering in calculating the standard error.)

P.S. when you are going to write your answer into answer sheet, please round up to 2 digits after floating point

1) Assume that you're going to do Simple Random Sampling (SRS) for above dataset.

Compute a mean: 5 □ 0 □ , □ 6 □

P.S here you need to drag-and-drop digit-by-digit. For example, if your answer is 35.13 then you need to drag 3, then 5, then . and then 1 and 3

2) Compute a standard error for SRS: 6 □ , □ 8 □ 6 □

3) Now compute 95% of confidence interval. Please note that t-value in this case is equal to 2.04

Upper limit for SRS: 3 □ 6 □ , □ 5 □ 5 □

Lower limit for SRS: 6 □ 4 □ , □ 6 □ 5 □

P.S You need to take **rounded** answers from 1st and 2nd questions

Now for Stratified part

1) What is the value of W_h 0 □ , □ 2 □ 5 □

2) Compute a mean: 5 □ 0 □ , □ 6 □

3) Compute a standard error for Stratified part: 7 □ , □ 7 □

4) Compute d-value: 1 □ , □ 1 □ 2 □

Hint: d- value is a ratio of standard error for statified over standard error for SRS

5) Compute d-squared: 1 □ , □ 2 □ 5 □

6) Compute N_{eff} 1 □ 2 □ , □ 8 □

P.S you need to take exact anwer from 5-th step rounded up to 2 digits after floating point.

1 2 3 4 5 6 7 8 9 0 ,

Your answer is partially correct.

You have correctly selected 32.
The correct answer is:
Suppose that you have the following results of survey. Now it is necessary to analyze obtained survey by using Simple Random Sampling and Stratified Random Sampling. Recommended tool for using is MS Excel.

(Ignore the fpc and the clustering in calculating the standard error.)

P.S. when you are going to write your answer into answer sheet, please round up to 2 digits after floating point

1) Assume that you're going to do Simple Random Sampling (SRS) for above dataset.

Compute a mean: [5][0][,][6]

P.S here you need to drag-and-drop digit-by-digit. For example, if your answer is 35.13 then you need to drag 3, then 5, then . and then 1 and 3

2) Compute a standard error for SRS: [6][,][8][9]

3) Now compute 95% of confidence interval. Please note that t-value in this case is equal to 2.04

Upper limit for SRS: [6][4][,][6][6]

Lower limit for SRS: [3][6][,][5][4]

P.S You need to take **rounded** answers from 1st and 2nd questions

Now for Stratified part

1) What is the value of W_h [0][,][2][5]

2) Compute a mean: [5][0][,][6]

3) Compute a standard error for Stratified part: [7][,][7]

4) Compute d-value: [1][,][1][2]
Hint: d- value is a ratio of standard error for statified over standard error for SRS

5) Compute d-squared: [1][,][2][5]
6) Compute N_{eff} [1][2][,][8]
P.S you need to take exact anwer from 5-th step rounded up to 2 digits after floating point.

Question **2**
Correct
Mark 10.00 out of 10.00

Suppose that you're going to run linear regression with 4 input features and 1 output feature. Your hypothesis is linear.

Firstly it it necessary to normalize your dataset: Z = (x-mu)/std

Initial theta parameters is equal to zero. Learning rate is 0.01. Now, let's complete the following table:

#Iterations	Cost Function (Round please up to integer value)	Optimal Theta parameter Indicate here maximum theta value(round please up to 2 digits after floating point)
n=10	1 □ 9 □ 4 □	1 □ , □ 7 □ 7 □
n=100	3 □ 4 □	1 □ 1 □ , □ 7 □ 5 □
n=1000	2 □	1 □ 8 □ , □ 5 □ 4 □

1 2 3 4 5 6 7 8 9 0 ,

Your answer is correct.

The correct answer is:
Suppose that you're going to run linear regression with 4 input features and 1 output feature. Your hypothesis is linear.

Firstly it it necessary to normalize your dataset: Z = (x-mu)/std

Initial theta parameters is equal to zero. Learning rate is 0.01. Now, let's complete the following table:

#Iterations	Cost Function (Round please up to integer value)	Optimal Theta parameter Indicate here maximum theta value(round please up to 2 digits after floating point)
n=10	[1][9][4]	[1][,][7][7]
n=100	[3][4]	[1][1][,][7][5]
n=1000	[2]	[1][8][,][5][4]

Question **3**

Partially correct

Mark 6.55 out of 10.00

Suppose that you're going to run logistic regression with 3 input features and 1 output feature. Your hypothesis is linear with sigmoid activation function.

Initial theta parameters is equal to zero. Learning rate is 0.01. Now, let's complete the following table:

#Iterations	Cost Function (Round up to 3 digits after floating point)	Optimal Theta parameter Indicate here maximum theta value(Round up to 2 digits after floating point)
n=10	0 , 5 9 8 0	0 , 0 2
n=100	0 , 3 4 1	
n=1000	0 , 1 4 9	

After 10.000 iterations and by setting threshold = 0.7, what is the number of ones in the first 20 rows of prediction:

3

1 2 3 4 5 6 7 8 9 0 ,

Your answer is partially correct.

You have correctly selected 19.

The correct answer is:

Suppose that you're going to run logistic regression with 3 input features and 1 output feature. Your hypothesis is linear with sigmoid activation function.

Initial theta parameters is equal to zero. Learning rate is 0.01. Now, let's complete the following table:

#Iterations	Cost Function (Round up to 3 digits after floating point)	Optimal Theta parameter Indicate here maximum theta value(Round up to 2 digits after floating point)
n=10	[0][,][5][9][8][1]	[0][,][0][2]
n=100	[0][,][3][4][1]	[0][,][1][9]
n=1000	[0][,][1][4][9]	[0][,][8][6]

After 10.000 iterations and by setting threshold = 0.7, what is the number of ones in the first 20 rows of prediction:

[4]

Question **4**

Not answered

Marked out of 10.00

Suppose that you're going to run neural network algorithm with the following parameters:

- Data Preparation: Normalized input vectors for binary classification.
- Network Architecture: Three hidden layers with ReLU activation, and an output layer with Sigmoid activation.
- Forward Propagation: Computes activations through each layer.
- Loss Calculation: Uses Mean Absolute Error (MAE) as the loss function.
- Backpropagation: Computes gradients using the chain rule.
- Weight and Bias Updates: Updates parameters using gradient descent with a learning rate.
- Iterative Training: Runs for 10,000 epochs, printing loss every 1,000 epochs.
- Final Prediction: Outputs probability values for each input.

a4 = [☐☐☐, ☐☐☐]

a3.max() = ☐☐☐ (round up to integer value)

a2.max() = ☐☐ (round up to integer value)

a1.max() = ☐ (round up to integer value)

Loss: ☐☐☐

General Conculsion after 10000 epochs: ☐

1 2 3 4 5 6 7 8 9 0 ,

NN predicts image of dog | NN predicts image of cat | NN can't define correct image class

Your answer is incorrect.

The correct answer is:

Suppose that you're going to run neural network algorithm with the following parameters:

- Data Preparation: Normalized input vectors for binary classification.
- Network Architecture: Three hidden layers with ReLU activation, and an output layer with Sigmoid activation.
- Forward Propagation: Computes activations through each layer.
- Loss Calculation: Uses Mean Absolute Error (MAE) as the loss function.
- Backpropagation: Computes gradients using the chain rule.
- Weight and Bias Updates: Updates parameters using gradient descent with a learning rate.
- Iterative Training: Runs for 10,000 epochs, printing loss every 1,000 epochs.
- Final Prediction: Outputs probability values for each input.

a4 = [[1][,][0], [1][,][0]]

a3.max() = [2][8][6] (round up to integer value)

a2.max() = [4][7] (round up to integer value)

a1.max() = [5] (round up to integer value)

Loss: [0][,][5]

General Conculsion after 10000 epochs: [NN predicts image of dog]

Question **5**

Correct

Mark 9.00 out of 9.00

You trained the neural network for 10 epochs and obtained the following confusion matrix on the test set:

	Predicted: Cat (1)	**Predicted: Not Cat (0)**
Actual: Cat (1)	200	300
Actual: Not Cat (0)	120	180

Calculate the accuracy, precision, and recall of the classifier using the confusion matrix.

Accuracy: 0 , 4 7 5

Precision: 0 , 6 2 5

Recall: 0 , 4

F-1Score: 0 , 4 8 8

Please round up to 3 digits after floating point

1 2 3 4 5 6 7 8 9 0 ,

Your answer is correct.

The correct answer is:

You trained the neural network for 10 epochs and obtained the following confusion matrix on the test set:

	Predicted: Cat (1)	**Predicted: Not Cat (0)**
Actual: Cat (1)	200	300
Actual: Not Cat (0)	120	180

Calculate the accuracy, precision, and recall of the classifier using the confusion matrix.

Accuracy: [0][,][4][7][5]
Precision: [0][,][6][2][5]
Recall: [0][,][4]
F-1Score: [0][,][4][8][8]
Please round up to 3 digits after floating point

Question **6**

Correct

Mark 9.00 out of 9.00

The Gym Management System (GMS) aims to streamline operations in a fitness center by providing an efficient platform for managing memberships, scheduling classes, tracking payments, and monitoring gym equipment. The system should be user-friendly, accessible via web and mobile devices, and support integration with third-party applications.

A:

- Trainers should be able to create and manage class schedules.
- Members should be able to book and cancel class registrations.
- The system should notify users of schedule changes.

B:

- Users should be able to make payments via credit/debit cards, PayPal, and bank transfers.
- The system should generate invoices and payment receipts.
- Admins should have access to payment history and financial reports.

C:

- Admins should be able to track equipment usage and schedule maintenance.
- Trainers should be able to report faulty equipment.
- The system should send maintenance alerts.

D:

- The system should handle at least 1000 transactions per second.
- Response time for any action should not exceed 2 seconds.

E:

- User data should be encrypted at rest and in transit.
- Two-factor authentication should be required for admins.
- The system should log all access and modifications.

F:

- The system should work on all modern browsers (Chrome, Firefox, Edge, Safari).
- Mobile app compatibility with Android (API 26+) and iOS (iOS 13+).

A: **Class Scheduling**

B: **Payment Processing**

C: **Equipment Management**

D: **Performance Requirements**

E: **Security Requirements**

F: **Compatibility Requirements**

Class Scheduling	System Features	User Roles	Payment Processing
Compatibility Requirements	User Management	Equipment Management	Security Requirements
Performance Requirements	User Requirements Statements		

Your answer is correct.

The correct answer is:
The Gym Management System (GMS) aims to streamline operations in a fitness center by providing an efficient platform for managing memberships, scheduling classes, tracking payments, and monitoring gym equipment. The system should be user-friendly, accessible via web and mobile devices, and support integration with third-party applications.

A:

- Trainers should be able to create and manage class schedules.
- Members should be able to book and cancel class registrations.

- The system should notify users of schedule changes.

B:

- Users should be able to make payments via credit/debit cards, PayPal, and bank transfers.
- The system should generate invoices and payment receipts.
- Admins should have access to payment history and financial reports.

C:

- Admins should be able to track equipment usage and schedule maintenance.
- Trainers should be able to report faulty equipment.
- The system should send maintenance alerts.

D:

- The system should handle at least 1000 transactions per second.
- Response time for any action should not exceed 2 seconds.

E:

- User data should be encrypted at rest and in transit.
- Two-factor authentication should be required for admins.
- The system should log all access and modifications.

F:

- The system should work on all modern browsers (Chrome, Firefox, Edge, Safari).
- Mobile app compatibility with Android (API 26+) and iOS (iOS 13+).

A: [Class Scheduling]
B: [Payment Processing]
C: [Equipment Management]
D: [Performance Requirements]
E: [Security Requirements]
F: [Compatibility Requirements]

Question **7**

Partially correct

Mark 9.00 out of 12.00

Suppose that you have the following dataset. In this task you're going to analyze categorical variables, namely standard error, adjusted SE, 95% CI and 95% adjusted CI and also design effect ratio. Please read carefully attached methodology and by using Python find an answer for the following questions:

Race/Ethnicity	**n**	**Estimated Proportion**	**Standard Error**	**Adjusted SE (Clustering)**
Mexican	1 □ 2 □ 1 □	0 □ , □ 8 □ 1 □	0 □ , □ 2 □ 5 □	0 □ , □ 0 □ 3 □
Other	8 □ 1 □	0 □ , □ 0 □ 5 □	0 □ , □ 2 □ 1 □	0 □ , □ 0 □ 2 □

Race/Ethnicity	**95% CI**	**95% CI (Adjusted)**	**Design Effect**
Mexican	0 □ , □ 0 □ 3 □ and 0 □ , □ 1 □ 3 □	0 □ , □ 0 □ 3 □ and 0 □ , □ 1 □	1 □ , □ 0 □ 9 □
Other	0 □ , □ 0 □ 1 □ and 0 □ , □ 9 □ 4 □	0 □ , □ 0 □ 3 □ and 0 □ , □ 1 □ 3 □	1 □ , □ 0 □ 8 □

1 2 3 4 5 6 7 8 9 0 ,

Your answer is partially correct.

You have correctly selected 51.
The correct answer is:

Suppose that you have the following dataset. In this task you're going to analyze categorical variables, namely standard error, adjusted SE, 95% CI and 95% adjusted CI and also design effect ratio. Please read carefully attached methodology and by using Python find an answer for the following questions:

Race/Ethnicity	**n**	**Estimated Proportion**	**Standard Error**	**Adjusted SE (Clustering)**
Mexican	[1][2][1]	[0][,][0][8]	[0][,][0][1]	[0][,][0][1]
Other	[8][1]	[0][,][0][5]	[0][,][0][1]	[0][,][0][1]

Race/Ethnicity	**95% CI**	**95% CI (Adjusted)**	**Design Effect**
Mexican	[0][,][0][7] and [0][,][0][9]	[0][,][0][7] and [0][,][1]	[1][,][0][9]
Other	[0][,][0][4] and [0][,][0][7]	[0][,][0][4] and [0][,][0][7]	[1][,][0][8]

Question **8**

Partially correct

Mark 7.71 out of 9.00

In this question you can see 1 code example that incorporate different naming conventions. Please match variables' name with correct naming conventions.

private int intStudentID; Hungarian

public string Name { get { return strName; } set { strName = value; } } Pascal

private double dblGPA; Hungarian

public int StudentID { get { return intStudentID; } set { intStudentID = value; } } Pascal

private string strName; Hungarian

private List<Course> lstCourses; Hungarian

private List<Enrollment> lstEnrollments; Hungarian

Acronym | Hungarian | Pascal

Your answer is partially correct.

You have correctly selected 6.
The correct answer is:

In this question you can see 1 code example that incorporate different naming conventions. Please match variables' name with correct naming conventions.

private int intStudentID; [Hungarian]

public string Name { get { return strName; } set { strName = value; } } [Pascal]

private double dblGPA; [Acronym]
public int StudentID { get { return intStudentID; } set { intStudentID = value; } } [Pascal]
private string strName; [Hungarian]
private List<Course> lstCourses; [Hungarian]
private List<Enrollment> lstEnrollments; [Hungarian]

Question **9**

Correct

Mark 9.00 out of 9.00

This question is related to Software Testing. Please read carefully attached document, and define correct Test case type.

A	Performance Testing
B	Stress Testing
def test_cart_operations	Stress Testing
def test_calculate	Performance Testing

Your answer is correct.

The correct answer is:
A → Performance Testing,

B → Stress Testing,

def test_cart_operations → Stress Testing,

def test_calculate → Performance Testing

Question **10**

Correct

Mark 10.00 out of 10.00

Suppose that you have different diagrams for Hotel Management System. Your main task is to read carefully attached document, and match with correct diagram types.

A	Interaction Diagram (Sequence Diagram)
B	Class Diagram
C	Component Diagram
D	Use Case Diagram
E	Profile Diagram
F	Object Diagram

Your answer is correct.

The correct answer is:
A → Interaction Diagram (Sequence Diagram),

B → Class Diagram,

C → Component Diagram,

D → Use Case Diagram,

E → Profile Diagram,

F → Object Diagram

◄ Lecture 9

Jump to...

Final Exam Preparation ►

Started on	Wednesday, 26 February 2025, 9:04 AM
State	Finished
Completed on	Wednesday, 26 February 2025, 10:51 AM
Time taken	1 hour 47 mins
Grade	**43.06** out of 100.00

Question **1**

Partially correct

Mark 6.57 out of 12.00

Suppose that you have the following results of survey. Now it is necessary to analyze obtained survey by using Simple Random Sampling and Clustered Random Sampling. Recommended tool for using is MS Excel.

(Ignore the fpc and the clustering in calculating the standard error.)

P.S. when you are going to write your answer into answer sheet, please round up to 2 digits after floating point

1) Assume that you're going to do Simple Random Sampling (SRS) for above dataset.

Compute a mean: 5 ✔ 0 ✔ , ✔ 6 ✔

P.S here you need to drag-and-drop digit-by-digit. For example, if your answer is 35.13 then you need to drag 3, then 5, then . and then 1 and 3

2) Compute a standard error for SRS: 6 ✔ , ✔ 8 ✔ 9 ✔

3) Now compute 95% of confidence interval. Please note that t-value in this case is equal to 2.04

Upper limit for SRS: 6 ✔ 4 ✔ , ✔ 6 ✔ 5 ✖

Lower limit for SRS: 3 ✔ 6 ✔ , ✔ 5 ✔ 5 ✖

P.S You need to take **rounded** answers from 1st and 2nd questions

Assume that you're going to do Clustering Random Sampling for above dataset.

1) Compute a mean: 5 ✔ 0 ✔ , ✔ 6 ✔

2) Compute a standard error for Clusteting Random Sampling: 4 ✖ , ✔ 6 ✖ 6 ✖

3) Compute d-value: 0 ✖ , ✔ 6 ✖ 8 ✖

Hint: d- value is a ratio of standard error for clustering over standard error for SRS

4) Compute d-squared: 0 ✖ , ✔ 4 ✖ 6 ✖

5) Compute roh: 9 ✖ 7 ✖ , ✖ 6 ✖

P.S In 5-th step: You need to take answers from 3rd and 4th questions

Hint: W_{cl} =0.125 And you need to calculate (S_{cl1}...S_{cl8}) 8 times for each cluster.

6) N_{eff} = 6 ✖ 9 ✖ , ✖ 6 ✖

1 2 3 4 5 6 7 8 9 0 ,

Your answer is partially correct.

You have correctly selected 23.
The correct answer is:

Suppose that you have the following results of survey. Now it is necessary to analyze obtained survey by using Simple Random Sampling and Clustered Random Sampling. Recommended tool for using is MS Excel.

(Ignore the fpc and the clustering in calculating the standard error.)

P.S. when you are going to write your answer into answer sheet, please round up to 2 digits after floating point

1) Assume that you're going to do Simple Random Sampling (SRS) for above dataset.

Compute a mean: [5][0][,][6]

P.S here you need to drag-and-drop digit-by-digit. For example, if your answer is 35.13 then you need to drag 3, then 5, then . and then 1 and 3

2) Compute a standard error for SRS: [6][,][8][9]

3) Now compute 95% of confidence interval. Please note that t-value in this case is equal to 2.04

Upper limit for SRS: [6][4][,][6][6]

Lower limit for SRS: [3][6][,][5][4]

P.S You need to take **rounded** answers from 1st and 2nd questions

Assume that you're going to do Clustering Random Sampling for above dataset.

1) Compute a mean: [5][0][,][6]

2) Compute a standard error for Clusteting Random Sampling: [9][,][4][3]

3) Compute d-value: [1][,][3][7]
Hint: d- value is a ratio of standard error for clustering over standard error for SRS

4) Compute d-squared: [1][,][8][8]
5) Compute roh: [0][,][8][8]

P.S In 5-th step: You need to take answers from 3rd and 4th questions

Hint: W_{cl} =0.125 And you need to calculate (S_{cl1}...S_{cl8}) 8 times for each cluster.

6) N_{eff} = [8][,][5][1]

Question **2**

Not answered

Marked out of 10.00

Suppose that you're going to run linear regression with some input features and 1 output feature. Your hypothesis is

$$h_\theta(X) = \theta_0 + \theta_1 X_1 + \theta_2 X_2 + \theta_3 X_1^2 + \theta_4 X_1^3 + \theta_5 X_2^2 + \theta_6 X_2^3 + \theta_7 (X_1 \cdot X_2) + \theta_8 (X_1^2 \cdot X_2)$$

```
X = np.c_[np.ones(df.shape[0]), df[['X1', 'X2', 'X1^2', 'X1^3', 'X2^2', 'X2^3', 'X1*X2', 'X1^2*X2']].values]
Y = df['Y'].values.reshape(-1, 1)
```

Firstly it it necessary to normalize your dataset: Z = (x-mu)/std

Initial theta parameters is equal to zero. Learning rate is 0.1. Now, let's complete the following table:

#Iterations	Cost Function (Round please up to integer value)	Optimal Theta parameter Indicate here maximum theta value(Round please up to integer value)
n=10		
n=100		
n=1000		

1 2 3 4 5 6 7 8 9 0

Your answer is incorrect.

The correct answer is:

Suppose that you're going to run linear regression with some input features and 1 output feature. Your hypothesis is

$$h_\theta(X) = \theta_0 + \theta_1 X_1 + \theta_2 X_2 + \theta_3 X_1^2 + \theta_4 X_1^3 + \theta_5 X_2^2 + \theta_6 X_2^3 + \theta_7 (X_1 \cdot X_2) + \theta_8 (X_1^2 \cdot X_2)$$

```
X = np.c_[np.ones(df.shape[0]), df[['X1', 'X2', 'X1^2', 'X1^3', 'X2^2', 'X2^3', 'X1*X2', 'X1^2*X2']].values]
Y = df['Y'].values.reshape(-1, 1)
```

Firstly it it necessary to normalize your dataset: Z = (x-mu)/std

Initial theta parameters is equal to zero. Learning rate is 0.1. Now, let's complete the following table:

#Iterations	Cost Function (Round please up to integer value)	Optimal Theta parameter Indicate here maximum theta value(Round please up to integer value)
n=10	[8][9][5][2][4][1]	[2][1][6][7]
n=100	[4][2][2][7][1]	[3][3][2][8]
n=1000	[1][2][6][1]	[3][3][2][8]

Question **3**

Correct

Mark 10.00 out of 10.00

Suppose that you have the following dataset, with 3 input features, and 1 output feature. You're going to apply Logistic Regression algorithm with regularization.

Firstly it is necessary to apply normaization with the following formula: Z = (X-mu)/std.

Initial theta parameters = 0.

#Iterations, lambda, learning rate	Cost function (rounded up to 2 digis after floating point)	Optimal theta parameter Indicate here maximum theta value (rounded up to 2 digis after floating point)
N=100, alpha = 0.1, lambda = 0.1	0 , 2 8	0 , 7 9
N=1000, alpha = 0.2, lambda = 1	0 , 1 6	2 , 2 9
N=10000, alpha = 0.3, lambda = 10	0 , 3 3	1

After 10.000 iterations, alpha = 0.3, lambda = 10 and by setting threshold = 0.5, what is the number of ones in the first 10 rows of prediction:

6

1 2 3 4 5 6 7 8 9 0 ,

Your answer is correct.

The correct answer is:
Suppose that you have the following dataset, with 3 input features, and 1 output feature. You're going to apply Logistic Regression algorithm with regularization.

Firstly it is necessary to apply normaization with the following formula: Z = (X-mu)/std.

Initial theta parameters = 0.

#Iterations, lambda, learning rate	Cost function (rounded up to 2 digis after floating point)	Optimal theta parameter Indicate here maximum theta value (rounded up to 2 digis after floating point)
N=100, alpha = 0.1, lambda = 0.1	[0][,][2][8]	[0][,][7][9]
N=1000, alpha = 0.2, lambda = 1	[0][,][1][6]	[2][,][2][9]
N=10000, alpha = 0.3, lambda = 10	[0][,][3][3]	[1]

After 10.000 iterations, alpha = 0.3, lambda = 10 and by setting threshold = 0.5, what is the number of ones in the first 10 rows of prediction:
[6]

Question **4**

Partially correct

Mark 3.91 out of 10.00

Suppose that you're going to run neural network algorithm with the following parameters:

```
1. Data Preparation: Normalized input vectors for binary classification.
2. Network Architecture: 3 hidden layers with Tanh, output layer with Sigmoid.
3. Forward Propagation: Computes activations through layers.
4. Loss Calculation: Uses Mean Absolute Error (MAE) as the loss function.
5. Backpropagation: Computes gradients using chain rule and Tanh derivative.
6. Weight and Bias Updates: Uses gradient descent with learning rate 0.1.
7. Iterative Training: Runs for 10,000 epochs, prints loss every 1000 epochs.
8. Final Prediction: Generates probabilities for each input.
```

a4 = [1 ✗ , ✓ 9 ✗ , 2 ✗ , ✓ 3 ✗]

a3.min() = 0 ✓ , ✓ 0 ✗ 0 ✗ 0 ✗ (round up to 3 digits after floating point)

W4.max() = 0 ✓ , ✓ 5 ✗ 2 ✗ (round up to 2 digits after floating point)

W3.min() = 0 ✓ , ✓ 2 ✗ 0 ✗ (round up to 2 digits after floating point)

Loss after 10000 epochs: 2 ✗ , ✓ 3 ✗

General Conculsion after 10000 epochs: NN predicts image of cat ✗

1 2 3 4 5 6 7 8 9 0 ,

NN predicts image of dog

NN can't define correct image class

Your answer is partially correct.

You have correctly selected 9.
The correct answer is:

Suppose that you're going to run neural network algorithm with the following parameters:

```
1. Data Preparation: Normalized input vectors for binary classification.
2. Network Architecture: 3 hidden layers with Tanh, output layer with Sigmoid.
3. Forward Propagation: Computes activations through layers.
4. Loss Calculation: Uses Mean Absolute Error (MAE) as the loss function.
5. Backpropagation: Computes gradients using chain rule and Tanh derivative.
6. Weight and Bias Updates: Uses gradient descent with learning rate 0.1.
7. Iterative Training: Runs for 10,000 epochs, prints loss every 1000 epochs.
8. Final Prediction: Generates probabilities for each input.
```

a4 = [[0][,][5], [0][,][5]]

a3.min() = [0][,][9][9][9] (round up to 3 digits after floating point)

W4.max() = [0][,][1][5] (round up to 2 digits after floating point)

W3.min() = [0][,][1][9] (round up to 2 digits after floating point)

Loss after 10000 epochs: [0][,][5]
General Conculsion after 10000 epochs: [NN can't define correct image class]

Question **5**

Partially correct

Mark 3.60 out of 9.00

Suppose that you have the following dataset with 5 input features, 1 output variable (0,1 or 2). Your main task is to apply LogisticRegression algorithm and define precision, recall, accuracy and F-1 score for each class.

First 70% of dataset should be training set and last 30% test set.

Please round up to 3 digits after floating point. Drag-and-drop answers digit-by-digit.

List of necessary libraries:

```
import pandas as pd
from sklearn.model_selection import train_test_split
from sklearn.linear_model import LogisticRegression
from sklearn.metrics import accuracy_score, precision_score, recall_score, f1_score
# Train a Logistic Regression classifier
clf_lr = LogisticRegression(random_state=42, max_iter=1000)
```

Accuracy: [0] ✔ [,] ✔ [0] ✖ [0] ✖ [1] ✖

F-1 score (class = 0): [0] ✔ [,] ✔ [0] ✖ [0] ✖ [0] ✖

F-1 score (class = 1): [0] ✔ [,] ✔ [1] ✖ [0] ✖ [3] ✖

F-1 score (class = 2): [0] ✔ [,] ✔ [0] ✖ [0] ✖ [0] ✖

[1] [2] [3] [4] [5] [6] [7] [8] [9] [0] [,]

Your answer is partially correct.

You have correctly selected 8.

The correct answer is:

Suppose that you have the following dataset with 5 input features, 1 output variable (0,1 or 2). Your main task is to apply LogisticRegression algorithm and define precision, recall, accuracy and F-1 score for each class.

First 70% of dataset should be training set and last 30% test set.

Please round up to 3 digits after floating point. Drag-and-drop answers digit-by-digit.

List of necessary libraries:

```
import pandas as pd
from sklearn.model_selection import train_test_split
from sklearn.linear_model import LogisticRegression
from sklearn.metrics import accuracy_score, precision_score, recall_score, f1_score
# Train a Logistic Regression classifier
clf_lr = LogisticRegression(random_state=42, max_iter=1000)
```

Accuracy: [0][,][9][8][8]

F-1 score (class = 0): [0][,][9][9][1]

F-1 score (class = 1): [0][,][9][6][6]

F-1 score (class = 2): [0][,][9][9][2]

Question **6**

Partially correct

Mark 6.00 out of 9.00

The Library Management System (LMS) is designed to facilitate the management of library operations, including book cataloging, member registration, book borrowing/returning, and overdue fine calculation. The system should be user-friendly, accessible via web and mobile devices, and support integration with third-party digital resources.

A:

- **Admin:** Manages the overall system, including user accounts, book inventory, and overdue fine policies.
- **Librarian:** Handles book check-in/check-out, member registrations, and overdue fine management.
- **Member:** Can search for books, borrow/return books, and pay fines.
- **Guest User:** Can search for books but cannot borrow them.

B:
- Users should be able to register and manage their accounts.
- Members should be able to search for books by title, author, or category.
- The system should support book borrowing and returning processes.
- Automated reminders should be sent for due and overdue books.
- Secure payment processing for overdue fines.
- The system should allow librarians to track book availability and generate reports.
- Members should be able to view their borrowing history.

C:
- Cloud-based infrastructure for accessibility.
- Secure database storage with encrypted user and book data.
- Role-based access control (RBAC) for different user types.
- API integration with third-party digital libraries.
- Automated fine calculation and payment processing.

D:
- The system must support at least 500 concurrent users.
- Data storage should comply with GDPR and PCI DSS standards.
- The system should have an uptime of 99.5%.

E:
- Users must be able to create, update, and delete accounts.
- Admins should have the ability to approve or deactivate user accounts.
- Role-based access control must be implemented.

F:
- Librarians should be able to add, update, and remove books from the catalog.
- The system should track the availability of books in real-time.
- The system should provide a search feature for book lookup.

A: **User Roles** ✔
B: **System Features** ✘
C: **Security Requirements** ✘
D: **Operational Constraints** ✔
E: **User Management** ✔
F: **Book Management** ✔

User Requirements	Operational Constraints	Security Requirements	Reports and Analytics
Fine Management	User Management	Book Management	Compatibility Requirements
User Roles	System Features		

Your answer is partially correct.

You have correctly selected 4.
The correct answer is:

The Library Management System (LMS) is designed to facilitate the management of library operations, including book cataloging, member registration, book borrowing/returning, and overdue fine calculation. The system should be user-friendly, accessible via web and mobile devices, and support integration with third-party digital resources.

A:

- **Admin:** Manages the overall system, including user accounts, book inventory, and overdue fine policies.
- **Librarian:** Handles book check-in/check-out, member registrations, and overdue fine management.
- **Member:** Can search for books, borrow/return books, and pay fines.
- **Guest User:** Can search for books but cannot borrow them.

B:

- Users should be able to register and manage their accounts.
- Members should be able to search for books by title, author, or category.
- The system should support book borrowing and returning processes.
- Automated reminders should be sent for due and overdue books.
- Secure payment processing for overdue fines.
- The system should allow librarians to track book availability and generate reports.
- Members should be able to view their borrowing history.

C:

- Cloud-based infrastructure for accessibility.
- Secure database storage with encrypted user and book data.
- Role-based access control (RBAC) for different user types.
- API integration with third-party digital libraries.
- Automated fine calculation and payment processing.

D:

- The system must support at least 500 concurrent users.
- Data storage should comply with GDPR and PCI DSS standards.
- The system should have an uptime of 99.5%.

E:

- Users must be able to create, update, and delete accounts.
- Admins should have the ability to approve or deactivate user accounts.
- Role-based access control must be implemented.

F:

- Librarians should be able to add, update, and remove books from the catalog.
- The system should track the availability of books in real-time.
- The system should provide a search feature for book lookup.

A: [User Roles]
B: [User Requirements]
C: [System Features]
D: [Operational Constraints]
E: [User Management]
F: [Book Management]

Question **7**

Partially correct

Mark 1.76 out of 12.00

Suppose that you have the following dataset. In this task you're going to analyze categorical variables, namely standard error, adjusted SE, 95% CI and 95% adjusted CI and also design effect ratio. Please read carefully attached methodology and by using Python find an answer for the following questions:

Age Group	n	Estimated Proportion	Standard Error	Adjusted SE (Clustering)
25-34	1 2 1	1 2 ,	0 , 2	0 , 5
		4	9	2
35-44	8 1 ,	1 8 ,	0 , 4	0 , 8
		5	2	5

Age Group	95% CI	95% CI (Adjusted)	Design Effect
25-34	1 1 , 8 and 1 2 , 9	1 1 , 4 and 1 3 , 4	3 ,
			0 9
35-44	1 7 , and 1 9 , 4	1 7 , and 2 0 , 2	4 ,
			0 8

1 2 3 4 5 6 7 8 9 0 ,

Your answer is partially correct.

You have correctly selected 10.
The correct answer is:

Suppose that you have the following dataset. In this task you're going to analyze categorical variables, namely standard error, adjusted SE, 95% CI and 95% adjusted CI and also design effect ratio. Please read carefully attached methodology and by using Python find an answer for the following questions:

Age Group	n	Estimated Proportion	Standard Error	Adjusted SE (Clustering)
25-34	[3][8][4]	[0][,][2][6]	[0][,][0][1]	[0][,][0][1]
35-44	[3][3][6]	[0][,][2][2]	[0][,][0][1]	[0][,][0][1]

Age Group	95% CI	95% CI (Adjusted)	Design Effect
25-34	[0][,][2][3] and [0][,][2][8]	[0][,][2][3] and [0][,][2][8]	[1][,][1][3]
35-44	[0][,][2] and [0][,][2][5]	[0][,][2] and [0][,][2][5]	[1][,][1][2]

Question **8**

Partially correct

Mark 7.71 out of 9.00

In this question you can see 1 code example that incorporate different naming conventions. Please match variables' name with correct naming conventions.

private int intEmployeeID; Hungarian ✔

public Employee(int employeeID, String firstName, String lastName, String ssn, Date dob, String pin) Pascal ✔

public void setEmployeeID(int employeeID) { this.intEmployeeID = employeeID; } Hungarian ✖

private String strDepartmentName; Hungarian ✔

private String strCEO; Acronym ✔

private String strCTO; Acronym ✔

public void AddDepartment(Department department) Pascal ✔

Hungarian | Pascal | Acronym

Your answer is partially correct.

You have correctly selected 6.
The correct answer is:
In this question you can see 1 code example that incorporate different naming conventions. Please match variables' name with correct naming conventions.

private int intEmployeeID; [Hungarian]

public Employee(int employeeID, String firstName, String lastName, String ssn, Date dob, String pin) [Pascal]

public void setEmployeeID(int employeeID) { this.intEmployeeID = employeeID; }[Pascal]

private String strDepartmentName; [Hungarian]
private String strCEO; [Acronym]
private String strCTO; [Acronym]
public void AddDepartment(Department department) [Pascal]

Question **9**

Partially correct

Mark 2.25 out of 9.00

This question is related to Software Testing. Please read carefully attached document, and define correct Test case type.

A	Integration Test	✗
B	System Testing	✗
def test__with_stub_cart	Regression Test	✗
def calculate_total	Top-Down Testing	✓

Your answer is partially correct.

You have correctly selected 1.
The correct answer is:
A → System Testing,

B → Top-Down Testing,

def test__with_stub_cart → Top-Down Testing,

def calculate_total → Top-Down Testing

Question **10**

Partially correct

Mark 1.25 out of 10.00

Suppose that you have different diagrams for Online Banking System. Your main task is to read carefully attached document, and match with correct diagram types.

A Interaction Overview Diagram ✖

B Deployment Diagram ✔

C Interaction Overview Diagram ✖

D Component Diagram ✖

E Timing Diagram ✖

F Object Diagram ✖

G Component Diagram ✖

H Activity Diagram ✖

Your answer is partially correct.

You have correctly selected 1.
The correct answer is:
A → Component Diagram,

B → Deployment Diagram,

C → Object Diagram,

D → Package Diagram,

E → Activity Diagram,

F → Composite Structure Diagram,

G → Interaction Overview Diagram,

H → Timing Diagram

◄ Endterm_Exam

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