Question 2

5 / 5 pts

Consider the following specification for a program:

A computerized letter is to be sent to high school seniors telling them their graduation status. There are three inputs.

The first input is a 10 digit identifying number (ID Number).

The second input is the student's grade point average (gpa) which is a real number.

The third input is a real number indicating the balance of the student's account.

For students with 0<=gpa<1.0 a letter is output informing the student that they will not graduate. For 1.0<=gpa<=3.0 a letter is output informing the student that they have met the requirements for graduation. For 3.0<=gpa<3.7 a letter is output informing the student that they will graduate with honors. For 3.7<=gpa<=4.0 a letter is output informing the student they will graduate with highest honors. The letter also contains the balance of the student's account.

Which of the following best describes the set of equivalence partitions for gpa.

---

gpa < 0 (I)

gpa >4 (I)

0 <= gpa <= 4 (V)

---

gpa < 0 (I)

gpa < 0 (I)

gpa >4 (I)

1.0 <= gpa < 3.0 (V)

3.0 <= gpa < 3.7 (V)

3.7<= gpa <= 4.0 (V)

---

gpa < 0 (I)

gpa >4 (I)

0 <= gpa < 1.0 (I)

1.0 <= gpa < 3.0 (V)

3.0 <= gpa < 3.7 (V)

3.7<= gpa <= 4.0 (V)

---

gpa < 0 (I)

gpa >4 (I)

0 <= gpa < 1.0 (V)

1.0 <= gpa < 3.0 (V)

3.0 <= gpa < 3.7 (V)

3.7<= gpa <= 4.0 (V)

Question 3

5 / 5 pts

Given 4 inputs: P1 with values A,B; P2 with value C, P3 with values F, X, and P4 with values G, H which of the following tests provides pairwise combination testing?

G	A	F	C
G	B	F	C
H	A	X	C

G	A	F	C
G	B	F	C
H	A	X	C
H	B	F	C

G	B	F	C
H	A	X	C
H	B	F	C

G	A	F	C
G	B	X	C
H	A	X	C
H	B	F	C

G	B	F	C
H	A	X	C
H	B	F	C

5 / 5 pts

Question 4

5 / 5 pts

You are asked to test a program which calculates the amount of medicine that would be given to a patient using the following rules.

- Patients with **age less than or equal to 30**; with **tcV level less than or equal to 3.5** and **YTF negative**; receives **1.0mg** of the medicine.
- Patients with **age less than or equal to 30**; with **tcV level less than or equal to 3.5** and **YTF positive**; receives **2.0mg** of the medicine
- Patients with **age less than or equal to 30**; with **tcV level greater than 3.5** and **YTF negative**; receives **no** medicine
- Patients with **age less than or equal to 30**; with **tcV level greater than 3.5** and **YTF positive**; receives **1.0mg** medicine
- Patients with **age less than or equal to 50**; with **tcV level less than or equal to 3.5** and **YTF negative**; receives **2.0mg** of the medicine.
- Patients with **age less than or equal to 50**; with **tcV level less than or equal to 3.5** and **YTF positive**; receives **2.5mg** of the medicine.
- Patients with **age less than or equal to 50**; with **tcV level greater than 3.5** and **YTF negative**; receives **no** medicine
- Patients with **age less than or equal to 50**; with **tcV level greater than 3.5** and **YTF positive**; receives **2.0mg** of the medicine.
- Patients with **age less than or equal to 70**; regardless of tcV or YTF levels; receives no medicine.

*If one were to develop a **decision table** for testing this program, how many test cases / columns would be needed?*

receives **no** medicine

- Patients with **age less than or equal to 30**; with **tcV level greater than 3.5** and **YTF positive**; receives **1.0mg** medicine
- Patients with **age less than or equal to 50**; with **tcV level less than or equal to 3.5** and **YTF negative**; receives **2.0mg** of the medicine.
- Patients with **age less than or equal to 50**; with **tcV level less than or equal to 3.5** and **YTF positive**; receives **2.5mg** of the medicine.
- Patients with **age less than or equal to 50**; with **tcV level greater than 3.5** and **YTF negative**; receives **no** medicine
- Patients with **age less than or equal to 50**; with **tcV level greater than 3.5** and **YTF positive**; receives **2.0mg** of the medicine.
- Patients with **age less than or equal to 70**; regardless of tcV or YTF levels; receives no medicine.

*If one were to develop a **decision table** for testing this program, how many test cases / columns would be needed?*

- (●) 12
- ( ) 8
- ( ) 9
- ( ) 4

Question 5

5 / 5 pts

You are asked to test a program which calculates the amount of medicine that would be given to a patient using the following rules.

- Patients with **age less than or equal to 30**; with **tcV level less than or equal to 3.5** and **YTF negative**; receives **1.0mg** of the medicine.
- Patients with **age less than or equal to 30**; with **tcV level less than or equal to 3.5** and **YTF positive**; receives **2.0mg** of the medicine
- Patients with **age less than or equal to 30**; with **tcV level greater than 3.5** and **YTF negative**; receives **0.5mg medicine**
- Patients with **age less than or equal to 30**; with **tcV level greater than 3.5** and **YTF positive**; receives **1.0mg** medicine
- Patients with **age less than or equal to 50**; with **tcV level less than or equal to 3.5** and **YTF negative**; receives **2.0mg** of the medicine.
- Patients with **age less than or equal to 50**; with **tcV level less than or equal to 3.5** and **YTF positive**; receives **2.5mg** of the medicine.
- Patients with **age less than or equal to 50**; with **tcV level greater than 3.5** and **YTF negative**; receives **0.5mg medicine**
- Patients with **age less than or equal to 50**; with **tcV level greater than 3.5** and **YTF positive**; receives **2.0mg** of the medicine.
- Patients with **age less than or equal to 70**; regardless of tcV or YTF levels; receives **0.5mg medicine**

*If one were to develop a **decision tree** for testing this program, how many test cases would be needed?*

- Patients with **age less than or equal to 50**; with **tcV level less than or equal to 3.5** and **YTF negative**; receives **2.0mg** of the medicine.
- Patients with **age less than or equal to 50**; with **tcV level less than or equal to 3.5** and **YTF positive**; receives **2.5mg** of the medicine.
- Patients with **age less than or equal to 50**; with **tcV level greater than 3.5** and **YTF negative**; receives **0.5mg medicine**
- Patients with **age less than or equal to 50**; with **tcV level greater than 3.5** and **YTF positive**; receives **2.0mg** of the medicine.
- Patients with **age less than or equal to 70**; regardless of tcV or YTF levels; receives **0.5mg medicine**

*If one were to develop a **decision tree** for testing this program, how many test cases would be needed?*

- ○ 18
- ◉ 9
- ○ 12
- ○ 8

Question 6

5 / 5 pts

Given the state testing diagram below, how many test sequences would one find in the state testing tree?

You may assume "A" is the start state and "J" is the terminal state.

- 13
- 3
- 4
- 5

HELP CENTER

Question 7

2 / 2 pts

Which of the following is considered a classic testing mistake?

- ○ good communication with developers
- ◉ not focusing on usability issues
- ○ Believing the primary objective of system testing is to find important bugs
- ○ documenting and reviewing test designs

Question 8

2 / 2 pts

Which of the following best describes exploratory testing?

- ○ Exploratory testing does not require the use of a test oracle.
- ○ All tests are created in advance and sources of errors are further explored.
- ◉ All tests are not created in advance and new tests are added during the testing process.
- ○ Testing tours are used to ensure 100% functional and code coverage.

Question 9

2 / 2 pts

What is an advantage of model based test development?

- There are a set number of test generation criteria we can use
- If there is a change in the model, new tests can automatically be generated
- Model based test development executes the system
- If there is a change in the model, tests will remain the same

Question 10

5 / 5 pts

Assume we are testing a function with 3 variables:

Variable X: has values 'a', and 'b'

Variable Y: has values 'c' and 'd'

Variable Z: has values 'e', 'f' and 'g'

What is the total 2-way variable value configuration coverage achieved by the following tests:

Question 10

5 / 5 pts

Assume we are testing a function with 3 variables:

Variable X: has values 'a', and 'b'

Variable Y: has values 'c' and 'd'

Variable Z: has values 'e', 'f' and 'g'

What is the total 2-way variable value configuration coverage achieved by the following tests:

X='a'; Y='c'; Z='e'

X='a'; Y='c'; Z='f'

X='a'; Y='d'; Z='e'

X='b'; Y='d'; Z='f'

X='b'; Y='d'; Z='g'

- ○ 6/8
- ◉ 12/16
- ○ 8/12
- ○ 11/16

Question 11

2 / 2 pts

What is fuzz testing used for the *most often*?

- (selected) To detect vulnerabilities in a system

Correct! Fuzz testing is performed to detect vulnerabilities in software applications.

- To explore software for errors using a pair of testers
- To determine how output changes based on inputs
- To create test cases based on defect taxonomies

rrect

Question 12

0 / 2 pts

- To explore software for errors using a pair of testers
- To determine how output changes based on inputs
- To create test cases based on defect taxonomies

Incorrect

Question 12

0 / 2 pts

How is a defect taxonomy used in defect-based testing?

- To execute system level testing
- To identify test cases to run
- To identify test cases that failed
- To categorize test cases once test cases are developed

Question 13

2 / 2 pts

Question 13

2 / 2 pts

Which of the following best describes tours in exploratory testing?

- Tour testing is performed with the customer to provide them with an overview of product capabilities.
- Tour testing uses a structure or method that gives the tester a particular focus in the way he or she goes about exploring a product.
- Tour testing ensures 100% functional and code coverage during exploratory testing.
- Tour testing consists of randomly exploring the product.

Question 14

5 / 5 pts

Question 14

5 / 5 pts

Consider testing utilizing equivalence partitioning a program with the following 2 inputs and equivalence partitions? Which of the following describes the minimum number of tests needed?

Input 1: X

1..10 (V)

<1 (I)

> 50 (I)

Input 2: Y

75.. 80 (V)

81..100 (V)

<75 (I)

> 100 (I)

- 1 valid and 2 invalid tests
- 2 valid tests and 2 invalid tests

Input 1: X

1..10 (V)

<1 (I)

> 50 (I)

Input 2: Y

75.. 80 (V)

81..100 (V)

<75 (I)

> 100 (I)

- 1 valid and 2 invalid tests
- 2 valid tests and 2 invalid tests
- 2 valid tests and 4 invalid tests
- 1 valid test and 4 invalid tests

1 valid test and 4 invalid tests

Question 15

5 / 5 pts

A student can score a minimum of 20 points and a maximum of 50 points on an exam. Which one of these testes can be used for boundary level testing?

- Student score = {19, 21, 49, 50}
-
- Student score = {18, 21, 52}
- Student score = {19, 20, 50, 51}
- Student score = {3, 21, 49, 55}

Question 16

2 / 2 pts

Question 16

2 / 2 pts

In waterfall software development, when does software testing activity happen?

- After the requirements gathering phase
- After deployment phase
- After the coding phase

Correct. The testing phase takes place after the coding phase in the waterfall software development. In waterfall development, the phases are discrete, so testing would not begin until the coding phase is almost completely finished.

- After the design phase

- [ ] After the design phase

Question 17

2 / 2 pts

What are the key aspects of agile software development? *Select all that apply.*

- [x] Working code is more important than comprehensive documentation.
- [ ] Following a plan is more important than responding to change.
- [x] Individuals and interactions are more important than processes and tools.
- [x] Customer collaboration is more important than contract negotiation.

Question 18

2 / 2 pts

Question 18

2 / 2 pts

Who performs beta testing activities?

- [ ] Engineering managers
- [ ] Developers
- [ ] Business analysts
- [x] Customers

Internal customers will usually conduct testing at the beta level.

Question 19

5 / 5 pts

Question 19

5 / 5 pts

Suppose that there is a program that deals with four inputs that are dependent on each other: A, B, C and D. Assume A has five different values, B has four different values, C has ten different values, and D has two different values. According to the decision table, how many test cases do we need to develop?

- 20 test cases
- 200 test cases
- 21 test cases
- 400 test cases

Question 20

5 / 5 pts

Question 20

5 / 5 pts

Suppose that parking rates for a permit are calculated based on the type of vehicle owner (faculty or students) and the location of the parking (garage, lot, street). Faculty may park in the lot or garage at $200. Students may pay $100 for a garage spot and $50 for a street spot. Any other combination is not allowed. Which decision table *best* captures these requirements?

	1	**2**	**3**	**4**	**5**	**6**
Faculty	**X**	**X**	**X**			
Student				**X**	**X**	**X**
Street	**X**			**X**		
Garage		**X**			**X**	
Lot			**X**			**X**
$200		**X**	**X**			
$100					**X**	
$50				**X**		**X**
Not Allowed	**X**					

	1	**2**	**3**	**4**	**5**	**6**
Faculty	**X**	**X**	**X**			
Student				**X**	**X**	**X**

	1	**2**	**3**	**4**	**5**	**6**
Faculty	**X**	**X**	**X**			
Student				**X**	**X**	**X**
Street	**X**			**X**		
Garage		**X**			**X**	
Lot			**X**			**X**
$200		**X**	**X**			
$100					**X**	
$50				**X**		
Not Allowed	**X**					**X**

	1	**2**	**3**	**4**	**5**	**6**
Faculty	**X**	**X**	**X**			
Student				**X**	**X**	**X**
Street	**X**			**X**		
Garage		**X**			**X**	
Lot			**X**			**X**
$200		**X**	**X**			
$100				**X**		
$50					**X**	
Not Allowed	**X**					**X**

Question 21

5 / 5 pts

Suppose that you have four inputs: P1 with values A,B; P2 with value C; P3 with values F,X; and P4 with values G,H,W. Given this information, which table contains the correct tests for a pairwise combination design of experiments?

P1	**P3**	**P4**
A	**F**	**G**
B	**X**	**G**
A	**X**	**H**
B	**F**	**H**
A	**X**	**H**
B	**F**	**H**

P1	**P2**	**P3**	**P4**
A	**C**	**F**	**G**
B	**C**	**X**	**G**
A	**C**	**F**	**H**
B	**C**	**X**	**H**
A	**C**	**F**	**W**
B	**C**	**X**	**W**

P1	**P2**	**P3**	**P4**
A	**C**	**F**	**G**
B	**C**	**X**	**G**
A	**C**	**X**	**H**
B	**C**	**F**	**H**
A	**C**	**X**	**W**
B	**C**	**F**	**W**

B	**F**	**H**

P1	**P2**	**P3**	**P4**
A	**C**	**F**	**G**
B	**C**	**X**	**G**
A	**C**	**F**	**H**
B	**C**	**X**	**H**
A	**C**	**F**	**W**
B	**C**	**X**	**W**

P1	**P2**	**P3**	**P4**
A	**C**	**F**	**G**
B	**C**	**X**	**G**
A	**C**	**X**	**H**
B	**C**	**F**	**H**
A	**C**	**X**	**W**
B	**C**	**F**	**W**

P1	**P2**	**P3**	**P4**
A	**C**	**F**	**G**
B	**C**	**X**	**G**
A	**C**	**X**	**H**
B	**C**	**F**	**W**

2 / 2 pts

Question 22

```
| **B** | **C** | **X** | **G** |
| **A** | **C** | **X** | **H** |
| **B** | **C** | **F** | **W** |
```

Question 22

2 / 2 pts

Which of the following best describes metamorphic testing?

- Metamorphic testing is a form of fuzz testing.
- Metamorphic testing integrates with test oracles to determine expected results.
- Metamorphic testing utilizes metamorphic relations to determine expected results.
- Metamorphic testing utilizes metamorphic relations to determine test inputs.

Question 23

5 / 5 pts

Question 23

5 / 5 pts

Consider this code:

```
read (w, x, y, z)
if x > 20 and y > 4
then x = 10
else x = 20
endif;
if z < 50 and w > 10
then y = 10
else y = 20
endif;
```

Given this code, how many test cases are needed to achieve 100% decision condition coverage?

- 6
- 3
- 2

wser + Webcam Results for Tanushi Ahuja

Correct answers are no longer available.

e for this quiz: **98** out of 100
nitted Oct 3, 2022 at 4:15pm
attempt took 62 minutes.

Question 1

2 / 2 pts

Which technique answers the question: "Are we building the right product?"

- (selected) Validation

Correct! Validation checks that what we are developing is the right product.

- Verification

Question 2

5 / 5 pts

- TTT, FTT, TFT, TTF, FTF
- TTT, FTT, FFT, FFF, TTF
- FFF, FTF, FFT, TFF, TFT
- FFF, TFT, FFT, TTF, FTT
- correct

Incorrect

Question 25

5 / 5 pts

Consider this code:

```
if A < C then
exchange A and C:
endif
if B < C then
exchange A and C:
endif
```

Given this code, what is the final symbolic value of C after executing the TT path?

- $A_0 + B_0$
- $C_0 + B_0$
- C_0

  Incorrect. The value of C is not correctly explained here in terms of three sets of Def(i) C-Use(i) and P-Use(i) using a clear path. Please review "Data Flow Testing" in Week 4.

- B_0

Question 26

5 / 5 pts

Use the information provided in figure to calculate the DU paths. Based on the DU paths, what coverage do the given test cases provide?

```
Get a, b
X = 0          } Node 1

If a >= 5 (Predicate I)
        Then c = x + 3 (Node 2)
        Else c = b + 2 (Node 3)

If b < 4 (Predicate II)
        Then b = c + 4 (Node 4)
        Else x = b + 2 (Node 5)
```

- Def1(a) = USEI(a)
- Def1(b) = USE3(b) || USEII(b) || USE5(b)
- Def1(x) = USE2(x)
- Def2(c) = USE4(c) || USE5(b)
- Def3(c) = USE4(c)

Then b = c + 4 (Node 4)
Else x = b + 2 (Node 5)

Def1(a) = USEI(a)

Def1(b) = USE3(b) || USEII(b) || USE5(b)

Def1(x) = USE2(x)

Def2(c) = USE4(c) || USE5(b)

Def3(c) = USE4(c)

Def1(a) = USEI(a)

Def1(b) = USE3(b) || USEII(b) || USE5(b)

Def1(x) = USE2(x)

Def2(c) = USE4(c)

Def1(a) = USEI(a)

Def1(b) = USE3(b) || USEII(b) || USE5(b)

Def1(x) = USE2(x)

Def2(c) = USE4(c)

Def3(c) = USE4(c)

Question 27

3 / 3 pts

Consider this code:

```
if A < B then
exchange A and B:
endif
if B < C then
exchange B and C:
endif
if A > D then
exchange A and B;
endif
```

What is the cyclomatic complexity of this code? *(Note: Express your answer as a number ONLY. For example 1, 2, 3, etc.)*

4

Incorrect

Question 24

Original Score: 0 / 5 pts Regraded Score: 5 / 5 pts

This question has been regraded.

Which set of paths provides possible basis paths for this control flow diagram?

5 / 5 pts

Question 26

Use the information provided in figure to calculate the DU paths. Based on the DU paths, what coverage do the given test cases provide?

A = 3; B = 2
A = 6; B = 5

Get a, b
X = 0 } Node 1

If a >= 5 (Predicate I)
Then c = x + 3 (Node 2)
Else c = b + 2 (Node 3)

If b < 4 (Predicate II)
Then b = c + 4 (Node 4)
Else x = b + 2 (Node 5)

- 6/7
- 3/7
- 5/7
- 4/7

3 / 3 pts

Question 27

Consider this code:

```
If (x \<= 0) or (y \<= 0) (0)
then
  x = x2        (1)
  y = y2
else
  x = x + 1     (2)
endif
if (x < 1) or (y < 1)
then
  x = x + 1     (3)
  y = y + 1
else
  x = x - 1     (4)
  y = y - 1
endif
```

Given this code, what is the correct path condition representation for the False True path?

- $[(x_0 \backslash> 0) \text{ and } (y_0 \backslash> 0)] \cap [(x_0 \backslash< 0) \text{ and } (y_0 \backslash< 0)]$
- $[(x_0 \backslash> 0) \text{ and } (y_0 \backslash> 0)] \cap [(x_0 \backslash< 0) \text{ or } (y_0 \backslash< 1)]$

Correct! Every variable defined is tested in each of the different places that it ultimately is used.

Question 22

2 / 2 pts

Which of the following best describes metamorphic testing?

- (selected) Metamorphic testing utilizes metamorphic relations to determine expected results.
- Metamorphic testing is a form of fuzz testing.
- Metamorphic testing integrates with test oracles to determine expected results.
- Metamorphic testing utilizes metamorphic relations to determine test inputs.

Question 23

5 / 5 pts

Consider this code:

```
read (a, b, c)
if a > 15 or b < 2 and c < -5
  Y = 25;
else
  Y = 30;
```

Given this code, how many test cases are needed to achieve 100% multiple condition coverage?

400 test cases

Question 20

5 / 5 pts

Suppose that parking rates for a permit are calculated based on the type of vehicle owner (faculty or students) and the location of the parking (garage, lot, street). Faculty may park in the lot or garage at $200. Students may pay $100 for a garage spot and $50 for a street spot. Any other combination is not allowed. Which decision table *best* captures these requirements?

	y	**y**	**y**	**y**	**y**	**y**
Faculty	**y**	**y**	**y**			
Student				**y**	**y**	**y**
Street	**y**			**y**		
Garage		**y**			**y**	
Lot			**y**			**y**
$200		**y**	**y**			
$100					**y**	
$50				**y**		
Not Allowed	**y**					**y**

	y	**y**	**y**	**y**	**y**	**y**
Faculty	**y**	**y**	**y**			
Student				**y**	**y**	**y**
$200	**y**			**y**		
Garage		**y**			**y**	
Lot			**y**			**y**
$100		**y**	**y**			

4/7

3 / 3 pts

Question 27

Consider this code:

```
if A < B then
exchange A and B;
endif
if B < C then
exchange B and C;
endif
if A > D then
exchange A and B;
endif
```

What is the cyclomatic complexity of this code? *(Note: Express your answer as a number ONLY. For example 1, 2, 3, etc.)*

4

Quiz Score: **97.33** out of 100

Question 21

5 / 5 pts

Suppose that you have four inputs: P1 with values X,Y; P2 with value Z; P3 with values A,B; and P4 with values C,D,E. Given this information, which table contains the correct tests for a pairwise combination design of experiments?

P1	P2	P3	P4
X	Z	A	C
X	Z	B	C
X	Z	A	D
X	Z	B	D
X	Z	A	E
X	Z	B	E

P1	P2	P3	P4
X	Z	A	C
X	Z	B	C
X	Z	A	D
X	Z	B	D
X	Z	A	E
X	Z	B	E

P1	P2	P3	P4
X	Z	A	C
X	Z	B	C
X	Z	A	D
X	Z	B	D
X	Z	A	E
X	Z	B	E

P1	P2	P3
X	Z	A
X	Z	B
X	Z	A
X	Z	B

Following a plan is more important than responding to change

Question 18

2 / 2 pts

During which testing level are all the components, including the hardware and software of a system, brought together and tested with other components?

- System testing

Correct! During system testing, all components of the system, including hardware and software, are brought together and tested. This is generally the point where we start to worry about things like security, performance, stress, usability, and safety. So in addition to ensuring that the whole system meets its functional attributes, we are also performing non-functional testing and addressing different quality attributes.

- Integration testing
- Acceptance testing
- Beta testing

Question 19

5 / 5 pts

Suppose that there is a program that deals with four inputs that are dependent on each other: A, B, C and D. Assume A has five different values, B has four different values, C has ten different values, and D has two

Student score = (19, 21, 49, 50)

Question 16

2 / 2 pts

In the test development process, what is the analogous activity of coding during the software development process?

- Designing test cases
- Creating a test execution schedule
- Writing test cases

  Correct! Similar to writing code during software development, test cases are written during the test development phase.
- Writing test objectives

Partial

Question 17

1.33 / 2 pts

What are the key aspects of agile software development? *Select all that apply.*

- individuals and interactions are more important than processes and tools

Question 14

5 / 5 pts

Consider testing utilizing equivalence partitioning a program with the following 2 inputs and equivalence partitions? Which of the following describes the minimum number of tests needed?

Input 1: X

1..10 (V)

<1 (I)

>50 (I)

Input 2: Y

75..80 (V)

81..100 (V)

<75 (I)

>100 (I)

- 1 valid test and 4 invalid tests
- 2 valid tests and 2 invalid tests
- 2 valid tests and 4 invalid tests
- 1 valid and 2 invalid tests

2 valid tests and 2 invalid tests

2 valid tests and 4 invalid tests

1 valid and 2 invalid tests

Question 15

5 / 5 pts

A student can score a minimum of 20 points and a maximum of 50 points on an exam. Which one of these testes can be used for boundary level testing?

Student score = {3, 21, 49, 55}

Student score = {18, 21, 52}

Student score = {19, 20, 50, 51}

Student score = {19, 21, 49, 50}

Question 16

2 / 2 pts

In the test development process, what is the analogous activity of coding during the software development process?

Inspection results of the code

Duration of the test cases

Test cases that require fewer resources to execute

Defect taxonomy

Question 13

2 / 2 pts

What are some of the steps taken during exploratory testing? *Select all that apply.*

- [x] Learn as much as possible about the application prior to the exploration
- [ ] Plan on test cases to develop
- [x] Develop test cases driven from previous test results
- [ ] Develop test cases when necessary or when needed in an ad-hoc manner

Question 14

5 / 5 pts

Consider testing utilizing equivalence partitioning a program with the following 2 inputs and equivalence partitions? Which of the following describes the minimum number of tests needed?

Input 1: X

To explore software for errors using a pair of testers

To detect vulnerabilities in a system

Correct! Fuzz testing is performed to detect vulnerabilities in software applications.

To determine how output changes based on inputs

Question 12

2 / 2 pts

In defect based testing, what is used to identify the test cases to run?

Inspection results of the code

Duration of the test cases

Test cases that require fewer resources to execute

Defect taxonomy

Question 13

2 / 2 pts

What are some of the steps taken during exploratory testing? *Select all that apply*

Metamorphic testing utilizes metamorphic relations to determine test inputs.

Question 23

5 / 5 pts

Consider this code:

```
read (a, b, c)
if a > 15 or b < 2 and c < -5
   Y = 25;
else
   Y = 30;
```

Given this code, how many test cases are needed to achieve 100% multiple condition coverage?

- 4
- 8

For 100% multiple condition coverage, all combinations of truth values for the tree boolean expressions a > 15, b < 2 and c < 5 need to be exercised. The required number of test cases will be 2^3 = 8

- 6
- 3

Testing tours are used to ensure 100% functional and code coverage

Question 9

2 / 2 pts

What is an advantage of model based test development?

- There are a set number of test generation criteria we can use
- If there is a change in the model, new tests can automatically be generated
- Model based test development executes the system
- If there is a change in the model, tests will remain the same

Question 10

5 / 5 pts

Assume we are testing a function with 3 variables:

Variable X: has values 'a', and 'b'

Variable Y: has values 'c' and 'd'

Variable Z: has values 'e', 'f' and 'g'

What is the total 2-way variable value configuration coverage achieved by the following tests:

X='a', Y='c', Z='e'

X='a', Y='c', Z='f'

Incorrect

Question 7

0 / 2 pts

Which one of the following actions is considered a classic testing mistake?

- Creating a regression test suite that verifies and validates changes in the code

Regression tests suites are designed to detect bugs that can be caused due to change in the code. Please review "Classic Testing Mistakes: Review of Reading" in Week 1 and answer this question again

- Starting testing early
- Attempting to automate all tests
- Focusing on usability issues

Question 8

2 / 2 pts

Which of the following best describes exploratory testing?

- All tests are created in advance and sources of errors are further explored
- All tests are not created in advance and new tests are added during the testing process

Given the state testing diagram below, how many test sequences would one find in the state testing tree?

You may assume "A" is the start state and "T" is the terminal state.

MacBook Air

You are asked to test a program which calculates the amount of medicine that would be given to a patient using the following rules.

- Patients with **age less than or equal to 30**; with **tcV level less than or equal to 3.5** and **YTF negative**; receives **1.0mg** of the medicine.
- Patients with **age less than or equal to 30**; with **tcV level less than or equal to 3.5** and **YTF positive**; receives **2.0mg** of the medicine
- Patients with **age less than or equal to 30**; with **tcV level greater than 3.5** and **YTF negative**; receives **0.5mg medicine**
- Patients with **age less than or equal to 30**; with **tcV level greater than 3.5** and **YTF positive**; receives **1.0mg** medicine
- Patients with **age less than or equal to 50**; with **tcV level less than or equal to 3.5** and **YTF negative**; receives **2.0mg** of the medicine.
- Patients with **age less than or equal to 50**; with **tcV level less than or equal to 3.5** and **YTF positive**; receives **2.5mg** of the medicine.
- Patients with **age less than or equal to 50**; with **tcV level greater than 3.5** and **YTF negative**; receives **0.5mg medicine**
- Patients with **age less than or equal to 50**; with **tcV level greater than 3.5** and **YTF positive**; receives **2.0mg** of the medicine.
- Patients with **age less than or equal to 70**; regardless of tcV or YTF levels; receives **0.5mg medicine**

*If one were to develop a **decision tree** for testing this program, how many test cases would be needed?*

- 18
- 9
- 8
- 12

Question 4

5 / 5 pts

You are asked to test a program which calculates the amount of medicine that would be given to a patient using the following rules.

- Patients with **age less than or equal to 30**; with **tcV level less than or equal to 3.5**; receives **0.5mg** of the medicine.
- Patients with **age less than or equal to 30**; with **tcV level greater than 3.5**; receives **2.0mg** of the medicine.
- Patients with **age less than or equal to 50**; with **tcV level less than or equal to 3.5**; receives **0.7mg** of the medicine.
- Patients with **age less than or equal to 50**; with **tcV level greater than 3.5**; receives **3.0mg** of the medicine.
- Patients with **age less than or equal to 70**; regardless of tcV levels; receives no medicine.

If one were to develop a ***decision table*** *for testing this program, how many test cases / columns would be needed?*

- 16
- 24
- 9
- 6

Question 5

5 / 5 pts

H	A	X	C
H	B	X	C
W	A	X	C
W	B	F	C

G	A	F	C
G	B	X	C
H	A	X	C
H	B	F	C
W	A	X	C
W	B	F	C

G	A	F	C
G	B	X	C
H	A	X	C

6/8

11/16

8/12

Question 11

2 / 2 pts

What is fuzz testing used for the *most often*?

- To create test cases based on defect taxonomies
- To explore software for errors using a pair of testers
- To detect vulnerabilities in a system

Correct! Fuzz testing is performed to detect vulnerabilities in software applications.

- To determine how output changes based on inputs

Question 12

2 / 2 pts

In defect based testing, what is used to identify the test cases to run?

Canvas

dterm Exam Fall 2022 + Webcam - Requires Respondus LockDown Browser
ebcam Results for Prathmesh Chandansing Chandwade

Correct answers are no longer available.

ore for this quiz: **97.33** out of 100
bmitted Oct 3, 2022 at 4:06pm
is attempt took 65 minutes.

Question 1

2 / 2 pts

Which technique answers the question: "Are we building the right product?"

- Verification
- Validation

Correct! Validation checks that what we are developing is the right product.

Question 2

5 / 5 pts

Consider the following specification for a program:

A computerized loan amount is to be sent to loan applicant telling them their loan status. There are three inputs.

The first input is the annual income of the applicant which is a real number

Question 24

Original Score: 5 / 5 pts Regraded Score: 5 / 5 pts

This question has been regraded.

Which set of paths provides possible basis paths for this control flow diagram?

- TTT, FTT, TFT, TTF, FTF
- TTT, FTT, FFT, FFF, TTF
- FFF, FTF, FFT, TFF, TFT

Acceptance testing

Beta testing

Question 19

5 / 5 pts

Suppose that there is a program that deals with four inputs that are dependent on each other: A, B, C and D. Assume A has five different values, B has four different values, C has ten different values, and D has two different values. According to the decision table, how many test cases do we need to develop?

- 200 test cases
- 20 test cases
- 21 test cases
- 400 test cases

Question 20

5 / 5 pts

Suppose that parking rates for a permit are calculated based on the type of vehicle owner (faculty or students) and the location of the parking (garage, lot, street). Faculty may park in the lot or garage at $200. Students may pay $100 for a garage spot and $50 for a street spot. Any other combination is not allowed. Which decision table *best* captures these requirements?

Creating a test execution schedule

Writing test cases

Correct! Similar to writing code during software development, test cases are written during the test development phase.

Writing test objectives

1.33 / 2 pts

Partial

Question 17

What are the key aspects of agile software development? *Select all that apply.*

- [x] Individuals and interactions are more important than processes and tools.
- [ ] Working code is more important than comprehensive documentation.
- [x] Customer collaboration is more important than contract negotiation.
- [ ] Following a plan is more important than responding to change.

2 / 2 pts

Question 18

During which testing level are all the components, including the hardware and software of a system,

Focusing on usability issues

Question 8

2 / 2 pts

Which of the following best describes exploratory testing?

- All tests are created in advance and sources of errors are further explored
- All tests are not created in advance and new tests are added during the testing process.
- Exploratory testing does not require the use of a test oracle.
- Testing tours are used to ensure 100% functional and code coverage.

Question 9

2 / 2 pts

What is an advantage of model based test development?

- There are a set number of test generation criteria we can use
- If there is a change in the model, new tests can automatically be generated
- Model based test development executes the system
- If there is a change in the model, tests will remain the same

0 <= credit score < 400 (I)

400 <= credit score < 600 (V)

600 <= credit score < 700 (V)

700<= credit score <= 800 (V)

5 / 5 pts

Question 3

Given 4 inputs: P1 with values A,B; P2 with value C, P3 with values F, X, and P4 with values G, H, W, which of the following tests provides pairwise combination testing?

G	A	F	C
G	B	X	C
H	A	F	C
H	B	X	C
W	A	F	C
W	B	F	C

MacBook Air

Consider the following specification for a program:

A computerized loan amount is to be sent to loan applicant telling them their loan status. There are three inputs.

The first input is the annual income of the applicant which is a real number.

The second input is credit score of the applicant which is an integer number.

The third input is an integer number indicating the number of months worked for the latest employer.

For applicant with 0<= credit score <400 a letter is output informing the applicant that they are not qualified for loan. For 400<= credit score <600 a letter is output informing the applicant may qualify for a loan with a co-signer. For 600<= credit score <700 a letter is output informing the applicant is qualified for a loan with 4% interest. For 700<= credit score <=800 a letter is output informing the the applicant is qualified for a loan with 3.5% interest.

Which of the following best describes the set of equivalence partitions for credit score.

credit score < 0 (I)

credit score > 800 (I)

0 <= credit score<= 800 (V)

credit score < 0 (I)

credit score >800 (I)

0 <= credit score < 400 (V)

400 <= credit score < 600 (V)

600 <= credit score < 700 (V)

700<= credit score <= 800 (V)

credit score < 0 (I)

Canvas

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Incorrect

Question 2

0 / 5 pts

Consider the following specification for a program:

A computerized loan amount is to be sent to loan applicant telling them their loan status. There are three inputs.

The first input is the annual income of the applicant which is a real number.

The second input is credit score of the applicant which is an integer number.

The third input is an integer number indicating the number of months worked for the latest employer.

For applicant with 0<= credit score <400 a letter is output informing the applicant that they are not qualified for loan. For 400<= credit score <600 a letter is output informing the applicant may qualify for a loan with a co-signer. For 600<= credit score <700 a letter is output informing the applicant is qualified for a loan with 4% interest. For 700<= credit score <=800 a letter is output informing the the applicant is qualified for a loan with 3.5% interest.

Which of the following best describes the set of equivalence partitions for credit score.

credit score < 0 (I)

credit score > 800 (I)

0 <= credit score<= 800 (V)

credit score < 0 (I)

credit score >800 (I)

0 <= credit score < 400 (I)

400 <= credit score < 600 (V)

600 <= credit score < 700 (V)

700<= credit score <= 800 (V)

credit score < 0 (I)

credit score >800 (I)

400 <= credit score < 600 (V)

Canvas

Help Center

0 <= credit score<= 800 (V)

credit score < 0 (I)

credit score >800 (I)

0 <= credit score < 400 (I)

400 <= credit score < 600 (V)

600 <= credit score < 700 (V)

700<= credit score <= 800 (V)

credit score < 0 (I)

credit score >800 (I)

400 <= credit score < 600 (V)

600 <= credit score < 700 (V)

700<= credit score <= 800 (V)

credit score < 0 (I)

credit score >800 (I)

0 <= credit score < 400 (V)

400 <= credit score < 600 (V)

600 <= credit score < 700 (V)

700<= credit score <= 800 (V)

Question 3

5 / 5 pts

Given 4 inputs: P1 with values A,B; P2 with value C, P3 with values F, X, and P4 with values G, H, W, which of the following tests provides pairwise combination testing?

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Question 3

5 / 5 pts

Given 4 inputs: P1 with values A,B; P2 with value C, P3 with values F, X, and P4 with values G, H, W, which of the following tests provides pairwise combination testing?

G	A	F	C
G	B	X	C
H	A	F	C
H	B	X	C
W	A	F	C
W	B	F	C

G	A	F	C
G	B	X	C
H	A	X	C
H	B	X	C

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G	A	F	C
G	B	X	C
H	A	X	C
H	B	X	C
W	A	X	C
W	B	F	C

G	A	F	C
G	B	X	C
H	A	X	C
H	B	F	C
W	A	X	C
W	B	F	C

G	A	F	C

W	A	X	C
W	B	F	C

G	A	F	C
G	B	X	C
H	A	X	C
W	B	F	C

Question 4

5 / 5 pts

You are asked to test a program which calculates the amount of medicine that would be given to a patient using the following rules.

- Patients with **age less than or equal to 30**; with **tcV level less than or equal to 3.5**; receives **0.5mg** of the medicine.
- Patients with **age less than or equal to 30**; with **tcV level greater than 3.5**; receives **2.0mg** of the medicine.
- Patients with **age less than or equal to 50**; with **tcV level less than or equal to 3.5**; receives **0.7mg** of the medicine.
- Patients with **age less than or equal to 50**; with **tcV level greater than 3.5**; receives **3.0mg** of the medicine.
- Patients with **age less than or equal to 70**; regardless of tcV levels; receives no medicine.

*If one were to develop a **decision table** for testing this program, how many test cases / columns would be needed?*

- 24
- 16

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Question 4

5 / 5 pts

You are asked to test a program which calculates the amount of medicine that would be given to a patient using the following rules:

- Patients with **age less than or equal to 30**, with **tcV level less than or equal to 3.5**, receives **0.5mg** of the medicine.
- Patients with **age less than or equal to 30**, with **tcV level greater than 3.5**, receives **2.0mg** of the medicine.
- Patients with **age less than or equal to 50**, with **tcV level less than or equal to 3.5**, receives **0.7mg** of the medicine.
- Patients with **age less than or equal to 50**, with **tcV level greater than 3.5**, receives **3.0mg** of the medicine.
- Patients with **age less than or equal to 70**, regardless of tcV levels, receives no medicine.

*If one were to develop a **decision table** for testing this program, how many test cases / columns would be needed?*

- 24
- 16
- 6
- 9

Question 5

5 / 5 pts

You are asked to test a program which calculates the amount of medicine that would be given to a patient using the following rules:

- Patients with **age less than or equal to 30**, with **tcV level less than or equal to 3.5**, receives **0.5mg** of the medicine.
- Patients with **age less than or equal to 30**, with **tcV level greater than 3.5**, receives **2.0mg** of the medicine.
- Patients with **age less than or equal to 50**, with **tcV level less than or equal to 3.5**, receives **0.7mg** of the medicine.
- Patients with **age less than or equal to 50**, with **tcV level greater than 3.5**, receives **3.0mg** of the medicine.
- Patients with **age less than or equal to 70**, regardless of tcV levels, receives no medicine.

*If one were to develop a **decision tree** for testing this program, how many test cases would be needed?*

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Question 5

5 / 5 pts

You are asked to test a program which calculates the amount of medicine that would be given to a patient using the following rules.

- Patients with **age less than or equal to 30**; with **tcV level less than or equal to 3.5;** receives **0.5mg** of the medicine.
- Patients with **age less than or equal to 30**; with **tcV level greater than 3.5**; receives **2.0mg** of the medicine.
- Patients with **age less than or equal to 50**; with **tcV level less than or equal to 3.5**; receives **0.7mg** of the medicine.
- Patients with **age less than or equal to 50**; with **tcV level greater than 3.5**; receives **3.0mg** of the medicine.
- Patients with **age less than or equal to 70**; regardless of tcV levels; receives no medicine.

*If one were to develop a **decision tree** for testing this program, how many test cases would be needed?*

- 6
- 9
- 5
- 8

Question 6

5 / 5 pts

Given the state testing diagram below, how many test sequences would one find in the state testing tree?

You may assume "A" is the start state and "J" is the terminal state.

Correct answers are no longer available.

Score for this quiz: **81** out of 100
Submitted Oct 3, 2022 at 4:12pm
This attempt took 65 minutes.

Question 1

2 / 2 pts

Which technique answers the question: "Are we building the right product?"

- Verification
- Validation

Correct! Validation checks that what we are developing is the right product.

Incorrect

Question 2

0 / 5 pts

Consider the following specification for a program:

A computerized loan amount is to be sent to loan applicant telling them their loan status. There are three inputs.

The first input is the annual income of the applicant which is a real number.

The second input is credit score of the applicant which is an integer number.

The third input is an integer number indicating the number of months worked for the latest employer.

For applicant with 0<= credit score <400 a letter is output informing the applicant that they are not qualified for loan. For 400<= credit score <600 a letter is output informing the applicant may qualify for a loan with a co-signer. For 600<= credit score <700 a letter is output informing the applicant is qualified for a loan with 4% interest. For 700<= credit score <=800 a letter is output informing the the applicant is qualified for

- 5
- 4
- 13
- 3

Question 7

2 / 2 pts

Which of the following is considered a classic testing mistake?

- Believing the primary objective of system testing is to find important bugs
- documenting and reviewing test designs

Question 7

2 / 2 pts

Which of the following is considered a classic testing mistake?

- believing the primary objective of system testing is to find important bugs
- documenting and reviewing test designs
- **not focusing on usability issues**
- good communication with developers

Question 8

2 / 2 pts

Which of the following best describes exploratory testing?

- Exploratory testing does not require the use of a test oracle.
- Testing tours are used to ensure 100% functional and code coverage.
- All tests are created in advance and sources of errors are further explored.
- **All tests are not created in advance and new tests are added during the testing process.**

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Question 9

2 / 2 pts

What is an advantage of model based test development?

- If there is a change in the model, new tests can automatically be generated
- There are a set number of test generation criteria we can use
- If there is a change in the model, tests will remain the same
- Model based test development executes the system

Incorrect

Question 10

0 / 5 pts

Assume we are testing a function with 3 variables:

Variable X: has values 'a', and 'b'

Variable Y: has values 'c' and 'd'

Variable Z: has values 'e', 'f' and 'g'

What is the total 2-way variable value configuration coverage achieved by the following tests:

X='a'; Y='c'; Z='e'

X='a'; Y='c'; Z='f'

X='a'; Y='d'; Z='e'

X='b'; Y='d'; Z='f'

X='b'; Y='d'; Z='g'

Help Center

Incorrect

Question 10

0 / 5 pts

Assume we are testing a function with 3 variables:

Variable X: has values 'a', and 'b'

Variable Y: has values 'c' and 'd'

Variable Z: has values 'e', 'f' and 'g'

What is the total 2-way variable value configuration coverage achieved by the following tests:

X='a'; Y='c'; Z='e'

X='a'; Y='c'; Z='f'

X='a'; Y='d'; Z='e'

X='b'; Y='d'; Z='f'

X='b'; Y='d'; Z='g'

- 8/12
- 11/16
- 6/8
- 12/16

Question 11

2 / 2 pts

What is the difference between mutation based fuzz testing and generation based fuzz testing?

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Question 11

2 / 2 pts

What is the difference between mutation based fuzz testing and generation based fuzz testing?

- Mutation based fuzz testing injects mutants / errors into the code based on typical defect types and frequencies.
- Mutation based fuzz testing needs to know specifications of the test input to create random test data. Generation based fuzz does not require knowledge of inputs to create test data.
- Mutation based fuzz testing does not require knowledge of inputs to create test data. Generation based fuzz testing needs to know specifications of the test input to create random test data.
- There is no difference between mutation and generation based fuzz testing.

Question 12

2 / 2 pts

How is a defect taxonomy used in defect-based testing?

- To identify test cases that failed
- To categorize test cases once test cases are developed
- To execute system level testing
- To identify test cases to run

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Question 13

2 / 2 pts

Which of the following best describes tours in exploratory testing?

- (selected) Tour testing uses a structure or method that gives the tester a particular focus in the way he or she goes about exploring a product.
- Tour testing ensures 100% functional and code coverage during exploratory testing.
- Tour testing is performed with the customer to provide them with an overview of product capabilities.
- Tour testing consists of randomly exploring the product.

Question 14

5 / 5 pts

Consider testing utilizing equivalence partitioning a program with the following 2 inputs and equivalence partitions? Which of the following describes the minimum number of tests needed?

Input 1: A

10..100 (V)

101.. 500 (V)

<10 (I)

> 500 (I)

Input 2: B

40..65 (V)

66.. 70 (V)

71.. 80 (V)

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Question 14

5 / 5 pts

Consider testing utilizing equivalence partitioning a program with the following 2 inputs and equivalence partitions? Which of the following describes the minimum number of tests needed?

Input 1: A

10..100 (V)

101.. 500 (V)

<10 (I)

> 500 (I)

Input 2: B

40..65 (V)

66.. 70 (V)

71.. 80 (V)

81.. 90 (V)

<40 (I)

>90 (I)

- 3 valid tests and 4 invalid tests
- 2 valid tests and 2 invalid tests
- 3 valid tests and 4 invalid tests
- 4 valid tests and 4 invalid tests
- 2 valid tests and 4 invalid tests

Help Center

Question 15

5 / 5 pts

A student can score a minimum of 20 points and a maximum of 50 points on an exam. Which one of these testes can be used for boundary level testing?

- Student score = {3, 21, 49, 55}
- Student score = {19, 21, 49, 50}
- Student score = {19, 20, 50, 51}
- Student score = {18, 21, 52}

Incorrect

Question 16

0 / 2 pts

In the test development process, what is the analogous activity of coding during the software development process?

- Writing test cases
- Writing test objectives
- Creating a test execution schedule

Incorrect. Creating a test execution schedule during the test development process is similar to the planning phase of the software development process. Please review "Software Life Cycle" in Week 1.

- Designing test cases

Help Center

Question 6

5 / 5 pts

Given the state testing diagram below, how many test sequences would one find in the state testing tree?

You may assume "A" is the start state and "J" is the terminal state.

Canvas

Help Center

Question 19

5 / 5 pts

Suppose that there is a program that deals with four inputs that are dependent on each other: A, B, C and D. Assume A has five different values, B has four different values, C has ten different values, and D has two different values. According to the decision table, how many test cases do we need to develop?

- 200 test cases
- 20 test cases
- 400 test cases
- 21 test cases

Question 20

5 / 5 pts

Suppose that parking rates for a permit are calculated based on the type of vehicle owner (faculty or students) and the location of the parking (garage, lot, street). Faculty may park in the lot or garage at $200. Students may pay $100 for a garage spot and $50 for a street spot. Any other combination is not allowed. Which decision table *best* captures these requirements?

Help Center

Question 20

5 / 5 pts

Suppose that parking rates for a permit are calculated based on the type of vehicle owner (faculty or students) and the location of the parking (garage, lot, street). Faculty may park in the lot or garage at $200. Students may pay $100 for a garage spot and $50 for a street spot. Any other combination is not allowed. Which decision table *best* captures these requirements?

	1	**2**	**3**	**4**	**5**	**6**
Faculty	**X**	**X**	**X**			
Student				**X**	**X**	**X**
Street	**X**			**X**		
Garage		**X**			**X**	
Lot			**X**			**X**
$200		**X**	**X**			
$100				**X**		
$50					**X**	
Not Allowed	**X**					**X**

	1	**2**	**3**	**4**	**5**	**6**
Faculty	**X**	**X**	**X**			
Student				**X**	**X**	**X**
Street	**X**			**X**		
Garage		**X**			**X**	
Lot			**X**			**X**
$200		**X**	**X**			
$100					**X**	
$50	**X**			**X**		
Not Allowed						**X**

	1	**2**	**3**	**4**	**5**	**6**
Faculty	**X**	**X**	**X**			
Student				**X**	**X**	**X**
Street	**X**			**X**		

Faculty	**x**	**x**	**x**			
Student				**x**	**x**	**x**
Street	**x**			**x**		
Garage		**x**			**x**	
Lot			**x**			**x**
$200		**x**	**x**			
$100					**x**	
$50	**x**			**x**		
Not Allowed						**x**

	1	**2**	**3**	**4**	**5**	**6**
Faculty	**x**	**x**	**x**			
Student				**x**	**x**	**x**
Street	**x**			**x**		
Garage		**x**			**x**	
Lot			**x**			**x**
$200		**x**	**x**			
$100					**x**	
$50				**x**		
Not Allowed	**x**					**x**

	1	**2**	**3**	**4**	**5**	**6**
Faculty	**x**	**x**	**x**			
Student				**x**	**x**	**x**
Street	**x**			**x**		
Garage		**x**			**x**	
Lot			**x**			**x**
$200		**x**	**x**			
$100					**x**	
$50				**x**		**x**
Not Allowed	**x**					

Question 21

5 / 5 pts

Help Center

Question 21

5 / 5 pts

Suppose that you have four inputs: P1 with values X,Y; P2 with value Z; P3 with values A,B; and P4 with values C,D,E. Given this information, which table contains the correct tests for a pairwise combination design of experiments?

P1	**P2**	**P3**	**P4**
X	**Z**	**A**	**C**
Y	**Z**	**B**	**C**
X	**Z**	**B**	**D**
Y	**Z**	**A**	**D**
X	**Z**	**B**	**E**
Y	**Z**	**A**	**E**

P1	**P3**	**P4**
X	**A**	**C**
Y	**B**	**C**
X	**B**	**E**
Y	**A**	**E**
X	**B**	**E**
Y	**A**	**E**

P1	**P2**	**P3**	**P4**
X	**Z**	**A**	**X**
Y	**Z**	**B**	**X**
X	**Z**	**A**	**D**
Y	**Z**	**B**	**D**
X	**Z**	**A**	**E**
Y	**Z**	**B**	**E**

P1	**P2**	**P3**	**P4**
X	**Z**	**A**	**C**
Y	**Z**	**B**	**C**
X	**Z**	**B**	**D**
Y	**Z**	**A**	**E**

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Question 22

2 / 2 pts

Which testing technique is used when there is a test oracle problem?

- Defect-based Testing
- Metamorphic Testing
- Mutation Testing
- Fuzz Testing

Question 23

5 / 5 pts

Consider this code:

```
read (a, b, c)
If a > 15 or b < 2 and c < -5
  Y = 25;
else
  Y = 30;
```

Given this code, how many test cases are needed to achieve 100% multiple condition coverage?

- 3
- 4

Help Center

Fuzz Testing

Question 23

5 / 5 pts

Consider this code:

```
read (a, b, c)
If a > 15 or b < 2 and c < -5
  Y = 25;
else
  Y = 30;
```

Given this code, how many test cases are needed to achieve 100% multiple condition coverage?

- 3
- 4
- 6
- 8

For 100% multiple condition coverage, all combinations of truth values for the tree boolean expressions a > 15, b < 2 and c < 5 need to be exercised. The required number of test cases will be 2^3 = 8.

Incorrect

Question 24

Original Score: 5 / 5 pts Regraded Score: 5 / 5 pts

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Question 17

2 / 2 pts

Which central beliefs are part of the agile software development manifesto? *Select all that apply.*

- [ ] Detailed project documentation
- [x] Customer collaboration
- [x] Sprints and daily standup meetings
- [x] Working software

Incorrect

Question 18

0 / 2 pts

Who performs beta testing activities?

- [ ] Developers
- [ ] Engineering managers
- [x] Customers

Internal customers will usually conduct testing at the beta level.

- [x] Business analysts

Incorrect. Business analysts do not perform beta testing. Please review "Testing Levels and Types" in Week 1.

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Incorrect

Question 25

0 / 5 pts

Consider this code:

```
If (x \<= 0) or (y \<= 0) (0)
then
  x = x2      (1)
  y = y2
else
  x = x + 1   (2)
endif
if (x < 1) or (y < 1)
then
  x = x + 1   (3)
  y = y + 1
else
  x = x - 1   (4)
  y = y - 1
endif
```

Given this code, what is the correct path condition representation for the False True path?

- [(x_0 \> 0) and (y_0 \> 0)] ∩ [((x_0 \< 0) or (y_0 \<1)]
- [(x_0 \> 0) and (y_0 \> 0)] ∩ [((x_0 \< 0) and (y_0 \<0)]

```
y = yz
else
  x = x + 1     (2)
endif
if (x < 1) or (y < 1)
then
  x = x + 1     (3)
  y = y + 1
else
  x = x − 1     (4)
  y = y - 1
endif
```

Given this code, what is the correct path condition representation for the False True path?

- [(x_0 \> 0) and (y_0 \> 0)] ∩ [((x_0 \< 0) or (y_0 \<1)]
- [(x_0 \> 0) and (y_0 \> 0)] ∩ [((x_0 \< 0) and (y_0 \<0)]

  Incorrect. Every variable defined is not tested in each of the different places that it ultimately is used. Please review "Data Flow Testing" in Week 4.

- [((x_0)\)[(x0 \> 0) or (y_0 \> 0)] ∩ [((x_0 \>= 0) or (y_0\>=0)]
- [(x_0 \> 0) or (y_0 \> 0)] ∩ [(x_0 \>= 0) and (y_0 \>=0)]

Question 26

5 / 5 pts

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Question 26

5 / 5 pts

Use the information provided in figure to calculate the DU paths. Based on the DU paths, what coverage do the given test cases provide?

Get a, b
X = 0 } Node 1

If a >= 5 (Predicate I)
Then c = x + 3 (Node 2)
Else c = b + 2 (Node 3)

If b < 4 (Predicate II)
Then b = c + 4 (Node 4)
Else x = b + 2 (Node 5)

- Def1(a) = USEI(a)
  Def1(b) = USE3(b) || USEII(b) || USE5(b)
  Def1(x) = USE2(x)
  Def2(c) = USE4(c) || USE5(b)
  Def3(c) = USE4(c)

- Def1(a) = USEI(a)
  Def1(b) = USE3(b) || USEII(b) || USE5(b)
  Def1(x) = USE2(x)
  Def2(c) = USE4(c)

- Def1(a) = USEI(a)
  Def1(b) = USE3(b) || USEII(b) || USE5(b)

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If b < 4 (Predicate II)
Then b = c + 4 (Node 4)
Else x = b + 2 (Node 5)

Def1(a) = USEI(a)
Def1(b) = USE3(b) || USEII(b) || USE5(b)
Def1(x) = USE2(x)
Def2(c) = USE4(c) || USE5(b)
Def3(c) = USE4(c)

Def1(a) = USEI(a)
Def1(b) = USE3(b) || USEII(b) || USE5(b)
Def1(x) = USE2(x)
Def2(c) = USE4(c)

Def1(a) = USEI(a)
Def1(b) = USE3(b) || USEII(b) || USE5(b)
Def1(x) = USE2(x)
Def2(c) = USE4(c)
Def3(c) = USE4(c)

Question 27

3 / 3 pts

Consider this code:

Def2(c) = USE4(c)

Def3(c) = USE4(c)

Question 27

3 / 3 pts

Consider this code:

```
if A < B then
exchange A and B:
endif
if B < C then
exchange B and C:
endif
if A > D then
exchange A and B;
endif
```

What is the cyclomatic complexity of this code? *(Note: Express your answer as a number ONLY. For example 1, 2, 3, etc.)*

4

Quiz Score: **81** out of 100

Incorrect

Question 24

Original Score: 5 / 5 pts Regraded Score: 5 / 5 pts

This question has been regraded.

Which set of paths provides possible basis paths for this control flow diagram?

- TTT, FTT, TFT, TTF, FTF
- TTT, FTT, FFT, FFF, TTF
- FFF, FTF, FFT, TFF, TFT
- FFF, TFT, FFT, TTF, FTT