Lab Four

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Course: SDEV 300

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Test	Test	Procedur	Input	Expected Output	Actual Output	Pass
Cas	Description	е				?
е						
			1	Yes or No menu		
1a-a	Test if the program can validate user's input	+ Run the program. + Type 'x'	Х	Input must be 'Y' or 'N' Do you want to play the Matrix Game?	Input must be 'Y' or 'N' Do you want to play the Matrix Game?	Yes
1a-b	Test if the program proceeds when user opted 'y'	+ Run the program. + Type 'y'	У	Enter your phone number (XXX-XXX- XXXX):	Enter your phone number (XXX-XXX- XXXX):	Yes
1b-a	Test if the program exits and display a message when user opted 'n'	+ Run the program. + Type 'n'	n	********** Thanks for playing Python Numpy ******	********** Thanks for playing Python Numpy ******	Yes
			2	. Phone number		
2a-a	Test if the program validates user's phone number	+ Run the program. + Type 'y' +12-12- 124	12-12- 124	Your phone number is not in correct format. Please renter:	Your phone number is not in correct format. Please renter:	Yes
2a-b	Test if the program validates user's phone number (10 digits including alphabets)	+ Run the program. + Type 'y' +123-123- 124a	123- 123- 124a	Your phone number is not in correct format. Please renter:	Your phone number is not in correct format. Please renter:	Yes

2b	Test if the program	+ Run the program.	123- 123-	Enter your zip code+4 (XXXXX-XXXX):	Enter your zip code+4 (XXXXX-XXXX):	Yes
	validates	+ Type 'y'	1245			
	user's phone	+123-123-				
	number	1245				
	T	T	1	3. Zip-Code	T	
3a	Test if the	+ Run the	12-	Your zip-code is not in	Your zip-code is not in	Yes
	program	program.	12a	correct format. Please	correct format. Please	
	validates user's zip-	+ Type 'y' + 123-		renter:	renter:	
	code	123-1245				
	Couc	+ 12-12a				
3b	Test if the	+ Run the	12345	Enter your first 3x3	Enter your first 3x3	Yes
	program	program.	-1234	matrix:	matrix:	
	validates	+ Type 'y'				
	user's zip-	+ 123-				
	code	123-1245				
		+ 12345-				
		1234		1 Matrix input		
4a-a	Test if the	+ Run the	12a	4. Matrix input Invalid input. Please	Invalid input. Please	Yes
4a-a	program	program.	120	enter three float	enter three float	163
	validated	+ Type 'y'		numbers separated by	numbers separated by	
	users	+ 123-		a space.	a space.	
	input(numeri	123-1245				
	c only)	+ 12345-				
		1234				
		+ 1 2 a				
10 h	Toot if the	+ hit Enter	1 2 2	Invalid in nut Diago	Invalid input Diago	Vaa
4a-b	Test if the program	+ Run the program.	123	Invalid input. Please enter exactly three	Invalid input. Please enter exactly three	Yes
	validates the	+ Type 'y'	4	float numbers	float numbers	
	number of	+ 123-		separated by a space.	separated by a space.	
	elements in	123-1245		, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
	each row	+ 12345-				
	equals to	1234				
	three	+1234				
4 -	Task (C)	+ hit Enter	4.2.2	AAGH allande de ee	NA-Auto-dis-sta-	V
4a-c	Test if the	+ Run the	123	Will display the matrix	Matrix displayed	Yes
	program validates and	program. + Type 'y'	123			
	take correct	+ 123-	123			
	matrix	123-1245				
	format	+ 12345-				
		1234				
		+123				
		+ hit Enter				

_	ı	T	1	I	I	1
		+123				
		+ hit Enter				
		+123				
		+ hit Enter				
4b	Test if the	+ Run the	123	Will display the matrix	Will display the matrix	Yes
		program.	123	Trin display the matrix	Trin display the matrix	1.03
	program	-				
	displays the	+ Type 'y'	123			
	matrix	+ 123-				
	entered by	123-1245				
	the user	+ 12345-				
	the user	1234				
		+123				
		+ hit Enter				
		+123				
		+ hit Enter				
		+123				
		+ hit Enter			-•	
_	l =			peration list and Opera		l
5a-a	Test if the	+ Run the	NA	Select a Matrix	Select a Matrix	Yes
	program	program.		Operation from the list	Operation from the list	
	displays	+ Type 'y'		below:	below:	
	matrix	+ 123-		a. Addition	a. Addition	
	operation	123-1245		b. Subtraction	b. Subtraction	
	lists to the	+ 12345-		c. Matrix	c. Matrix	
	user	1234		Multiplication	Multiplication	
		+123		d. Element by element	d. Element by element	
		+ hit Enter		multiplication	multiplication	
		+123		manipheation	Inditiplication	
		+ hit Enter				
		+123				
		+ hit Enter				
		+456				
		+ hit Enter				
		+789				
		+ hit Enter				
		+123				
		+ hit Enter				
5a-b	Test if the	+ Run the	Z	Invalid Input!!!	Invalid Input!!!	Yes
34 5			-	Select a Matrix	Select a Matrix	103
	program	program.				
	validates	+ Type 'y'		Operation from the list	Operation from the list	
	user's choice	+ 123-		below:	below:	
	(a-d) from	123-1245		a. Addition	a. Addition	
	the matrix	+ 12345-		b. Subtraction	b. Subtraction	
	operations	1234		c. Matrix	c. Matrix	
	list	+123		Multiplication	Multiplication	
		+ hit Enter		d. Element by element	d. Element by element	
		+123		multiplication	multiplication	

		ı	1		T	,
		+ hit Enter + 1 2 3 + hit Enter + 4 5 6 + hit Enter + 7 8 9 + hit Enter + 1 2 3 + hit Enter + z				
5a-c	Test if the program validates user's choice (a-d) from the matrix operations list	+ Run the program. + Type 'y' + 123- 123-1245 + 12345- 1234 + 1 2 3 + hit Enter + 1 2 3 + hit Enter + 1 2 3 + hit Enter + 4 5 6 + hit Enter + 7 8 9 + hit Enter + 1 2 3 + hit Enter + 1 2 3 + hit Enter	12			Yes
5a-d	Test if the program validates user's choice (a-d) from the matrix operations list	+ Run the program. + Type 'y' + 123- 123-1245- 1234- + 123- + hit Enter + 123-	a	Program will proceed to the next operation	Program proceeded to the next operation.	Yes

		. hit Fator	1			<u> </u>
		+ hit Enter				
E la	Took if the	+ a		Variable stant Addition	Variable stad Addition	
5b- a-a	Test if the program adds tow matrices	+ Run the program. + Type 'y' + 123- 123-1245 + 12345- 1234 + 1 2 3 + hit Enter + 3 6 + hit Enter + 4 5 6 + hit Enter + 7 8 9 + hit Enter	а	You selected Addition. The results are: 5.0 7.0 9.0 8.0 10.0 12.0 2.0 4.0 6.0	You selected Addition. The results are: 5.0 7.0 9.0 8.0 10.0 12.0 2.0 4.0 6.0	Yes
		+123				
		+ hit Enter				
		+ a				
5b-	Test if the	+ Run the	а	The Transpose is:	The Transpose is:	Yes
a-b	program	program.		5.0 8.0 2.0	5.0 8.0 2.0	
	computes	+ Type 'y'		7.0 10.0 4.0	7.0 10.0 4.0	
	the transpose of	+ 123- 123-1245		9.0 12.0 6.0	9.0 12.0 6.0	
	the sum of	+ 12345-				
	two matrices	1234				
		+123				
		+ hit Enter				
		+123				
		+ hit Enter				
		+123				
		+ hit Enter				
		+ 4 5 6 + hit Enter				
		+ nit Enter + 7 8 9				
		+ hit Enter				
		+123				
		+ hit Enter				
		+ a				
5b-	Test if the	+ Run the	а	The row and column	The row and column	Yes
а-с	program	program.		mean values of the	mean values of the	
	computes	+ Type 'y'		results are:	results are:	
	the row and	+ 123-		Row: 7.0,10.0,4.0,	Row: 7.0,10.0,4.0,	
	column mean values	123-1245		Column: 5.0 ,7.0 ,9.0 ,	Column: 5.0 ,7.0 ,9.0 ,	
1	mean values					

	from the result of the sum of two matrices.	+ 12345- 1234 + 1 2 3 + hit Enter + 1 2 3 + hit Enter + 1 2 3 + hit Enter + 4 5 6 + hit Enter				
		+ 7 8 9 + hit Enter + 1 2 3 + hit Enter + a				
5b- b-a	Test if the program subtracts tow matrices	+ Run the program. + Type 'y' + 123- 123-1245 + 12345- 1234 + 1 2 3 + hit Enter + 4 5 6 + hit Enter + 7 8 9 + hit Enter + 1 2 3 + hit Enter + 1 2 3 + hit Enter	b	You selected Subtraction. The results are: -3.0 -3.0 -3.0 -6.0 -6.0 -6.0 0.0 0.0 0.0	You selected Subtraction. The results are: -3.0 -3.0 -3.0 -6.0 -6.0 -6.0 0.0 0.0 0.0	Yes
5b- b-b	Test if the program computes the transpose from the output of the difference of the two matrices	+ Run the program. + Type 'y' + 123- 123-1245 + 12345- 1234 + 1 2 3 + hit Enter + 1 2 3 + hit Enter + 1 2 3 + hit Enter	b	The Transpose is: -3.0 -6.0 0.0 -3.0 -6.0 0.0 -3.0 -6.0 0.0	The Transpose is: -3.0 -6.0 0.0 -3.0 -6.0 0.0 -3.0 -6.0 0.0	Yes

		1	l	T	T	1
		+ 4 5 6				
		+ hit Enter				
		+789				
		+ hit Enter				
		+123				
		+ hit Enter				
		+ b				
5b-	Test if the	+ Run the	b	The row and column	The row and column	Yes
b-c	program	program.		mean values of the	mean values of the	103
D-C				results are:	results are:	
	computes	+ Type 'y'				
	the row and	+ 123-		Row: -3.0,-6.0,0.0,	Row: -3.0,-6.0,0.0,	
	column	123-1245		-, 3.0 -, 3.0 -,	-, 3.0 -, 3.0 -,	
	mean values	+ 12345-		3.0,	3.0,	
	from the	1234				
	result of the	+123				
	difference of	+ hit Enter				
	two	+123				
	matrices.	+ hit Enter				
		+123				
		+ hit Enter				
		+ 4 5 6				
		+ hit Enter				
		+789				
		+ hit Enter				
		+123				
		+ hit Enter				
		+ b				
5b-	Test if the	+ Run the	С	You selected	You selected	Yes
c-a	program	program.		Multiplication. The	Multiplication. The	
	multiplies	+ Type 'y'		results are:	results are:	
	two matrices	+ 123-		21.0 27.0 33.0	21.0 27.0 33.0	
		123-1245		21.0 27.0 33.0	21.0 27.0 33.0	
		+ 12345-		21.0 27.0 33.0	21.0 27.0 33.0	
		12343-		21.0 27.0 33.0	21.0 27.0 33.0	
		+ 1 2 3				
		+ hit Enter				
		+123				
		+ hit Enter				
		+123				
		+ hit Enter				
		+456				
		+ hit Enter				
		+789				
		+ hit Enter				
		+123				
		+ hit Enter				
		+ C]			

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5b-	Test if the	+ Run the	С	The Transpose is:	The Transpose is:	Yes
c-b	program	program.		21.0 21.0 21.0	21.0 21.0 21.0	
	computes	+ Type 'y'		27.0 27.0 27.0	27.0 27.0 27.0	
	the	+ 123-		33.0 33.0 33.0	33.0 33.0 33.0	
	transpose	123-1245				
	from the	+ 12345-				
	output of the	1234				
	product of	+123				
	the two	+ hit Enter				
	matrices	+123				
		+ hit Enter				
		+ 1 2 3				
		+ hit Enter				
		+456				
		+ 4 5 6 + hit Enter				
		+789				
		+ hit Enter				
		+123				
		+ hit Enter				
		+ C				
5b-	Test if the	+ Run the	С	The row and column	The row and column	Yes
C-C	program	program.		mean values of the	mean values of the	
	computes	+ Type 'y'		results are:	results are:	
	the row and	+ 123-		, 27.0, 27.0, 27.0 Row: 27.0	Row: 27.0 ,27.0 ,27.0 ,	
	column	123-1245		Column: 21.0,27.0	Column: 21.0,27.0	
	mean values	+ 12345-		,33.0 ,	,33.0 ,	
	from the	1234				
	result of the	+123				
	product of	+ hit Enter				
	two	+123				
	matrices.	+ hit Enter				
		+123				
		+ hit Enter				
		+ 4 5 6				
		+ hit Enter				
		+ 789				
		+ hit Enter				
		+ 1111 Elliel				
		+ 1 2 3 + hit Enter				
Eh	Test if the	+ C	٨	Vou colocted Flament	Vou colosted Flament	Voc
5b-		+ Run the	d	You selected Element	You selected Element	Yes
d-a	program	program.		by element	by element	
	multiplies	+ Type 'y'		Multiplication. The	Multiplication. The	
	two matrices	+ 123-		results are:	results are:	
	(element by	123-1245		21.0 27.0 33.0	21.0 27.0 33.0	
1	element)	+ 12345-		21.0 27.0 33.0	21.0 27.0 33.0	
				21.0 27.0 33.0 21.0 27.0 33.0	21.0 27.0 33.0 21.0 27.0 33.0	

	T		1		1	
5b- d-b	Test if the program computes the transpose from the output of the product of the two matrices (element by element)	+ hit Enter + 1 2 3 + hit Enter + 1 2 3 + hit Enter + 4 5 6 + hit Enter + 7 8 9 + hit Enter + 1 2 3 + hit Enter + d + Run the program. + Type 'y' + 123- 123-1245 + 12345- 1234 + 1 2 3 + hit Enter + 1 2 6 + hit Enter	d	The Transpose is: 21.0 21.0 21.0 27.0 27.0 27.0 33.0 33.0 33.0	The Transpose is: 21.0 21.0 21.0 27.0 27.0 27.0 33.0 33.0 33.0	Yes
		+ 7 8 9 + hit Enter + 1 2 3 + hit Enter				
5b- d-c	Test if the program computes the row and column mean values from the result of the product of two matrices (element by element).	+ d + Run the program. + Type 'y' + 123- 123-1245 + 12345- 1234 + 1 2 3 + hit Enter + 1 8 9	d	The row and column mean values of the results are: Row: 27.0,27.0,27.0, Column: 21.0,27.0,33.0,	The row and column mean values of the results are: Row: 27.0,27.0,27.0, Column: 21.0,27.0,33.0,	Yes

6	Test if the	+ hit Enter + 1 2 3 + hit Enter + d + Run the	d	6. Exit Menu		Yes
	program prompts user with the option to continue or exit the program after every matrix operation.	program. + Type 'y' + 123- 123-1245 + 12345- 1234 + 1 2 3 + hit Enter + 4 5 6 + hit Enter + 7 8 9 + hit Enter + 1 2 3 + hit Enter + 7 8 9 + hit Enter + 1 2 3 + hit Enter		************* Welcome to the Python Matrix Application******* Do you want to play the Matrix Game? Enter Y for Yes or N for No:	************ Welcome to the Python Matrix Application******* Do you want to play the Matrix Game? Enter Y for Yes or N for No:	

1a-a

```
********** Welcome to the Python Matrix Application********

Do you want to play the Matrix Game?

Enter Y for Yes or N for No:

X

Input must be 'Y' or 'N'

Do you want to play the Matrix Game?
```

1a-b

```
Input must be 'Y' or 'N'
Do you want to play the Matrix Game?y
Enter your phone number (XXX-XXX-XXXX):
```

1b-a

```
*********** Welcome to the Python Matrix Application********

Do you want to play the Matrix Game?

Enter Y for Yes or N for No:

n

********** Thanks for playing Python Numpy *********

Process finished with exit code 0
```

2a-a

```
Enter your phone number (XXX-XXX-XXXX):
12-12-124
Your phone number is not in correct format. Please renter:
```

2a-b

```
Your phone number is not in correct format. Please renter: 123\text{-}123\text{-}124a Your phone number is not in correct format. Please renter:
```

3a

```
Enter your zip code+4 (XXXXX-XXXX):
12-12a
Your zip-code is not in correct format. Please renter:
```

3b

```
Enter your zip code+4 (XXXXX-XXXX):
12345-1234
Enter your first 3x3 matrix:
```

4a-a

```
Enter your first 3x3 matrix: 1 2 \alpha Invalid input. Please enter three float numbers separated by a space.
```

4a-b

```
Invalid input. Please enter three float numbers separated by a space. 1\ 2\ 3\ 4 Invalid input. Please enter exactly three float numbers separated by a space.
```

4а-с

```
Invalid input. Please enter exactly three float numbers separated by a space.

1 2 3
1 2 3
1 2 3
Your first 3x3 matrix is:
```

4b

```
Enter your first 3x3 matrix:

1 2 3

1 2 3

1 2 3

Your first 3x3 matrix is:

1.0 2.0 3.0

1.0 2.0 3.0

Enter your second 3x3 matrix:
```

5a-a

```
Select a Matrix Operation from the list below:

a. Addition

b. Subtraction

c. Matrix Multiplication

d. Element by element multiplication
```

5a-b

```
Select a Matrix Operation from the list below:

a. Addition

b. Subtraction

c. Matrix Multiplication

d. Element by element multiplication

z
Invalid Input!!!
Select a Matrix Operation from the list below:

a. Addition

b. Subtraction

c. Matrix Multiplication

d. Element by element multiplication
```

5a-c

```
12
Invalid Input!!!
Select a Matrix Operation from the list below:
a. Addition
b. Subtraction
c. Matrix Multiplication
d. Element by element multiplication
```

5a-d

```
Select a Matrix Operation from the list below:
a. Addition
b. Subtraction
c. Matrix Multiplication
d. Element by element multiplication
a
You selected Addition. The results are:
5.0 7.0 9.0
8.0 10.0 12.0
2.0 4.0 6.0
```

5b-a-a

```
You selected Addition. The results are:
5.0 7.0 9.0
8.0 10.0 12.0
2.0 4.0 6.0
```

5b-a-b

```
The Transpose is:
5.0 8.0 2.0
7.0 10.0 4.0
9.0 12.0 6.0
```

5b-a-c

```
The row and column mean values of the results are:
Row: 7.0 ,10.0 ,4.0 ,
Column: 5.0 ,7.0 ,9.0 ,
```

5b-b-a

```
You selected Subtraction. The results are:
-3.0 -3.0 -3.0
-6.0 -6.0 -6.0
0.0 0.0 0.0
```

5b-b-b

```
The Transpose is:
-3.0 -6.0 0.0
-3.0 -6.0 0.0
-3.0 -6.0 0.0
```

5b-b-c

```
The row and column mean values of the results are:
Row: -3.0 ,-6.0 ,0.0 ,
Column: -3.0 ,-3.0 ,-3.0 ,
```

5b-c-a, b, c

```
You selected Multiplication. The results are:
21.0 27.0 33.0
21.0 27.0 33.0
21.0 27.0 33.0

The Transpose is:
21.0 21.0 21.0
27.0 27.0 27.0
33.0 33.0 33.0

The row and column mean values of the results are:
Row: 27.0 ,27.0 ,27.0 ,
Column: 21.0 ,27.0 ,33.0 ,
```

5b-d-a, b, c

```
You selected Element by element Multiplication. The results are:
21.0 27.0 33.0
21.0 27.0 33.0
21.0 27.0 33.0

The Transpose is:
21.0 21.0 21.0
27.0 27.0 33.0

The row and column mean values of the results are:
Row: 27.0 ,27.0 ,27.0 ,
Column: 21.0 ,27.0 ,33.0 ,
```

Pylint Analysis:

1st Try

2nd Try