SO4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.

Passing criterion >= 70%

PI 4-1 know code of ethics for the discipline
PI 4-2 follow class agreements, laws, and regulations

SO5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

Passing criterion >= 70%

PI 5-1 assign the appropriate tasks and establish plans to finish work and meet goals on time
PI 5-2 create fair collaboration

SO6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions

Passing criterion >= 70%

PI 6-1 develop and conduct appropriate experimentation
PI 6-2 analyze and interpret data, and use engineering judgment to draw conclusions

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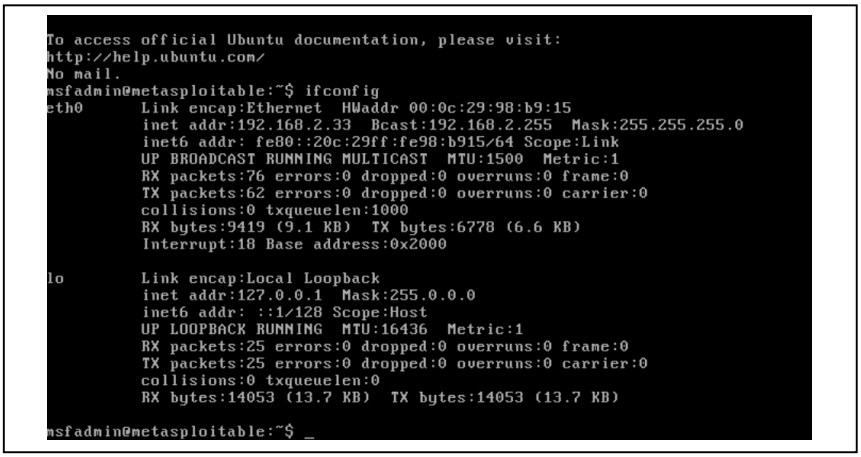
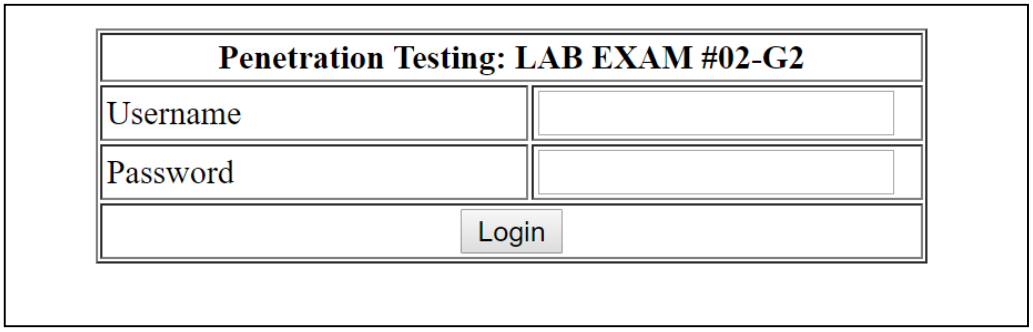
EGCO 477 Penetration Testing and Prevention

Question: Lab Exam 01
Ethical Penetration Testing on System: You are a member of penetration tester team. You have to test system security and search for any vulnerabilities on a given target machine. You have to follow steps and rules given in the class to access into a remote shell of a target machine (IP address of a target machine will be given directly for each student in the exam)



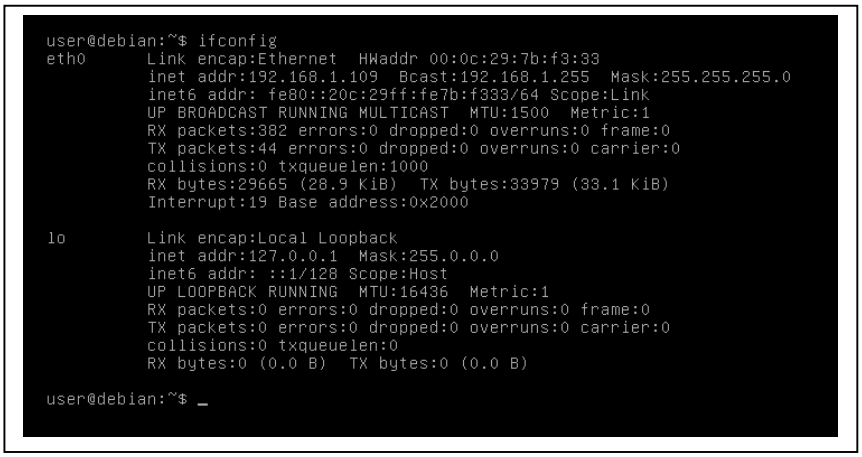
Question: Lab Exam 02

Ethical Penetration Testing on Web Application: You are a member of penetration tester team. You have to test Web application security and search for any vulnerabilities on a given target machine. You have to follow steps and rules given in the class to access into a remote shell of a target machine (IP address of a target machine will be given directly for each student in the exam)



Question: Lab Exam 03

Follow the techniques learned in the class of ethical penetration testing to gain access to a target machine. Once you are able to get a remote shell to a target, you have to search for a secret flag located in the directory of this machine.



PI 4-1 know code of ethics for the discipline
PI 4-2 follow class agreements, laws, and regulations

Student No.	Lab Exam 01		Lab Exam 02		Final Exam	
	PI 4-1	PI 4-2	PI 4-1	PI 4-2	PI 4-1	PI 4-2
1	✓	✓	✓	✓	✓	✓
2	✓	✓	✓	✓	✓	✓
3	✓	✓	✓	✓	✓	✓
4	✓	✓	✓	✓	✓	✓
5	✓	✓	✓	✓	✓	✓
6	✓	✓	✓	✓	✓	✓
7	✓	✓	✓	✓	✓	✓
8	✓	✓	✓	✓	✓	✓
9	✓	✓	✓	✓	✓	✓
10	✓	✓	✓	✓	✓	✓
Number of Pass	10	10	10	10	10	10

PI 4-1 Q.1: Attainability = 10/10 = 100%
PI 4-1 Q.2: Attainability = 10/10 = 100%
PI 4-1 Q.3: Attainability = 10/10 = 100%
PI 4-1 Average: Attainability = (100+100+100)/3 = 100% **Attainable**

PI 4-2 Q.1: Attainability = 10/10 = 100%
PI 4-2 Q.2: Attainability = 10/10 = 100%
PI 4-2 Q.3: Attainability = 10/10 = 100%
PI 4-2 Average: Attainability = (100+100+100)/3 = 100% **Attainable**

SO4 Conclusion

PI	Attainability	Reason	Remedial Action	Action plan	Measurements
5-1	✓				
5-2	✓				

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PI 5-1 assign the appropriate tasks and establish plans to finish work and meet goals on time
PI 5-2 create fair collaboration

Student No.	Lab Exam 01		Lab Exam 02		Final Exam	
	PI 5-1	PI 5-2	PI 5-1	PI 5-2	PI 5-1	PI 5-2
1	✓	✓	✓	✓	✓	✓
2	✓	✓	✓	✓	✓	✓
3	✓	✓	✓	✓	✓	✓
4	✓	✓	✓	✓	✓	✓
5	✓	✓	✓	✓	✓	✓
6	✓	✓	✓	✓	✓	✓
7	✓	✓	✓	✓	✓	✓
8	✓	✓	✓	✓	✓	✓
9	✓	✓	✓	✓	✓	✓
10	✓	✓	✓	✓	✓	✓
Number of Pass	10	10	10	10	10	10

PI 5-1 Q.1: Attainability = 10/10 = 100%
PI 5-1 Q.2: Attainability = 10/10 = 100%
PI 5-1 Q.3: Attainability = 10/10 = 100%
PI 5-1 Average: Attainability = (100+100+100)/3 = 100% **Attainable**

PI 5-2 Q.1: Attainability = 10/10 = 100%
PI 5-2 Q.2: Attainability = 10/10 = 100%
PI 5-2 Q.3: Attainability = 10/10 = 100%
PI 5-2 Average: Attainability = (100+100+100)/3 = 100% **Attainable**

SO5 Conclusion

PI	Attainability	Reason	Remedial Action	Action plan	Measurements
5-1	✓				
5-2	✓				

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PI 6-1 develop and conduct appropriate experimentation
PI 6-2 analyze and interpret data, and use engineering judgment to draw conclusions

Student No.	Lab Exam 01		Lab Exam 02		Final Exam	
	PI 6-1	PI 6-2	PI 6-1	PI 6-2	PI 6-1	PI 6-2
1	×	×	✓	✓	✓	✓
2	×	×	✓	✓	✓	✓
3	✓	✓	✓	✓	✓	✓
4	✓	✓	✓	✓	✓	✓
5	×	×	×	×	×	×
6	×	×	×	×	✓	✓
7	×	×	✓	✓	✓	✓
8	✓	✓	×	×	×	×
9	×	×	×	×	✓	✓
10	✓	✓	✓	✓	✓	✓
Number of Pass	4	4	6	6	8	8

PI 6-1 Q.1: Attainability = 4/10 = 40%
PI 6-1 Q.2: Attainability = 6/10 = 60%
PI 6-1 Q.3: Attainability = 8/10 = 80%
PI 6-1 Average: Attainability = (40+60+80)/3 = 60% **Not Attainable**

PI 6-2 Q.1: Attainability = 4/10 = 40%
PI 6-2 Q.2: Attainability = 6/10 = 60%
PI 6-2 Q.3: Attainability = 8/10 = 80%
PI 6-2 Average: Attainability = (40+60+80)/3 = 60% **Not Attainable**

SO6 Conclusion

PI	Attainability	Reason	Remedial Action	Action plan	Measurements
6-1	×	Poor operating system, network, and web services background	More tutorial and clinic sessions	Next semester	Next semester
6-2	×	Do not understand security concept of operating system and web services	More tutorial and clinic sessions	Next semester	Next semester

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