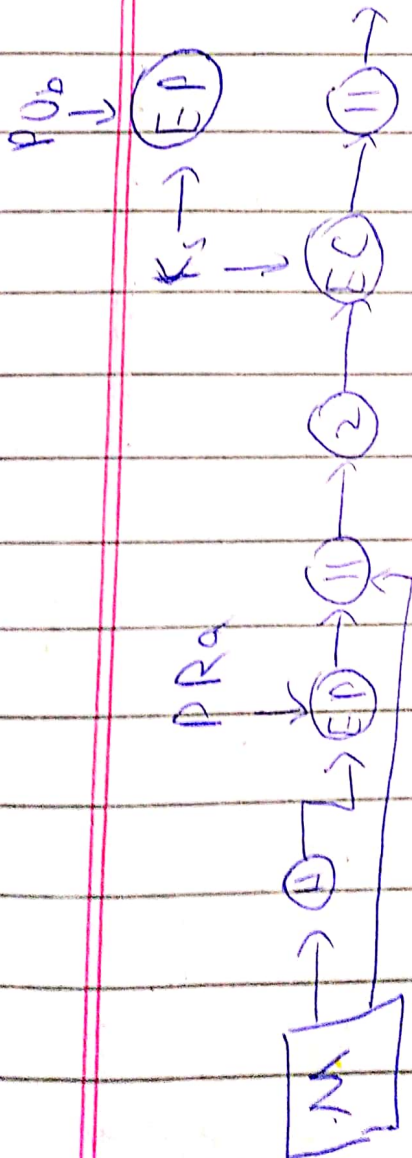
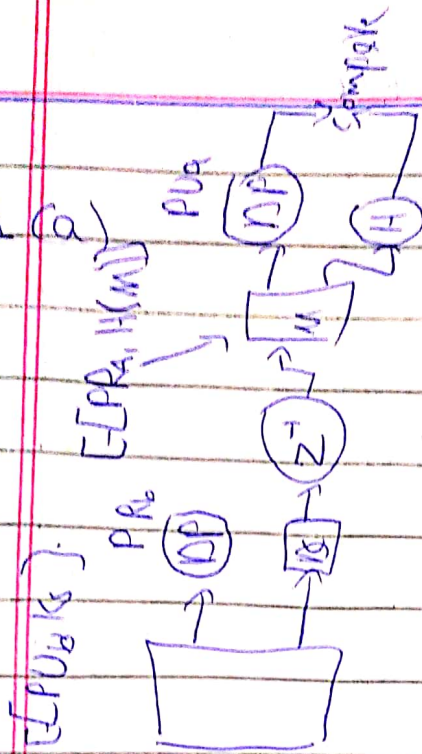


Q1 a)



Q2 (a)

These are the following activities for secure software development life cycle categorized by Phases.

1 Requirements:

- (a) Guidelines: it helps to avoid mistakes so obvious mistakes will not cause problem in next phases. for example to store password in hash form this should be add as guidelines.
- (b) Specification analysis: it is used to clearly understand customer requirements.

2 Design:

- (a) Secure design Principle: These principle helps to ensure that network and technologies which underpin modern life are designed and built securely.
- (b) formal validation: it is used to verify that program satisfies a formal ~~verification~~ specification of its behaviour.



(c) External review: it is done by independent team to insure that standards of programming and other important criterion implementation

3  
(3) ~~Implementation~~ <sup>Requirement traceability</sup> it is used to verify all the requirements are associated with corresponding design elements and other project deliverable.

(b) Requirement testing: in this phase during testing phase, developers find that whether their code works according to customer requirements.

(c) Security testing: it is used to find the issues that are need to be addressed it helps to find the issues as <sup>soon as</sup> possible

(d) ~~as~~

(d) <sup>and Penetration</sup> vulnerability testing: vulnerability test are use to discover vulnerabilities and bugs that cause flaws in application and penetration shows how a damaging flaw can be use in real attack.

- (e) Static analysis: it can be performed at earlier phases which makes fixing defects easier and also reduce cost in fixing issues.
- (f) integration procedures: it helps to find bugs at integrating level so it reduce the cost of fixing bug at maintenance phase.
- (g) Security evaluation: it helps to insure that all security measurements are valid and there is no flaws.
- (h) Product generation tools: it will be used to generate test cases to test the product.
- (i) Coding best practices: it helps to avoid general issues easily by following standard practice.

#### 4 Testing:

- (a) vulnerability Assessment: it is helpful to find bugs at testing level.



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5 Maintenance:

Perform Xworks to remove vulnerabilities  
= it removes bugs that are appear  
in production

Q2 (b)

Requirement traceability

Product generation tools

Perform Xworks to remove vulnerabilities.