



UNIVERSITY of LIMERICK

OLLSCOIL LUIMNIGH

UNIVERSITY OF LIMERICK

CS4157 SOFTWARE QUALITY

**The Role & Importance of Testing in
Facilitating the Development of Quality Software**

Niall Dillane

CSIS

Submitted to

Dr. Valentine Casey

CSIS

8 April 2020

Abstract

Present thesis abstract here, typically there are no references, figures or tables in the abstract.

Contents

1	Introduction	4
2	Dynamic Analysis in Verification and Validation	4
3	Functional and Non-Functional Requirements	4
3.1	How to Test	4
4	Software Testing Process	4
4.1	Unit Testing	5
4.2	Integration Testing	5
4.3	Regression Testing	5
4.4	System Testing	5
4.5	Acceptance Testing	5
5	Effective Test Strategy	5
5.1	Documented Test Procedures	5
5.2	Test Plan	5
6	White Box and Black Box Testing	5
7	Sample Table	6
7.0.1	Sample Figure	6

1 Introduction

2 Dynamic Analysis in Verification and Validation

Research and discuss the role and importance of dynamic analysis in the verification and validation of software and the essential part it plays in facilitating quality.

3 Functional and Non-Functional Requirements

Clearly outline and define what Functional and Non-Functional Software Requirements are and in your discussion compare and contrast the differences between them

3.1 How to Test

Research and discuss how Functional Software Requirements and Non-Functional requirements can be successfully tested and define the differences in approach required by each

4 Software Testing Process

Outline and discuss the key stages in the software testing process

4.1 Unit Testing

4.2 Integration Testing

4.3 Regression Testing

4.4 System Testing

4.5 Acceptance Testing

5 Effective Test Strategy

Research and define the principles of an effective test strategy.

5.1 Documented Test Procedures

Consider and discuss the role and importance of having documented test procedures in place to facilitate effective testing

5.2 Test Plan

Research and outline the purpose, importance and content of a test plan

6 White Box and Black Box Testing

Define and discuss the importance of utilizing both white box and black box testing

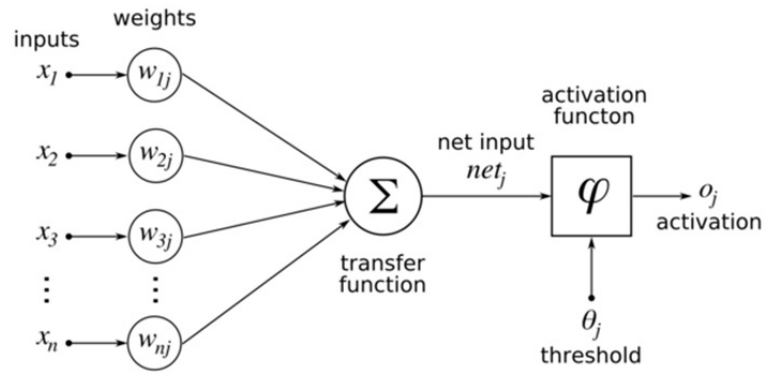
7 Sample Table

Table 1: Comparison p values

Attribute	p -value	Significant
Model A	0.0521	N
Model B	0.6171	N
Model C	<0.00001	Y

7.0.1 Sample Figure

Figure 1: Perceptron (Artificial Neural Network)



References