

# PROGRAMMING TECHNIQUES I C++

Fourth Edition 2010

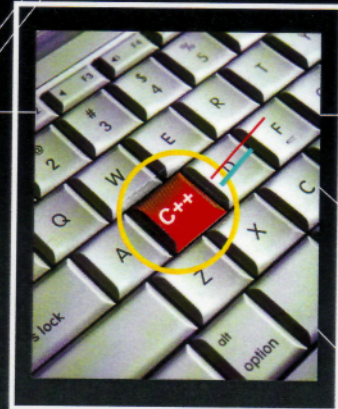
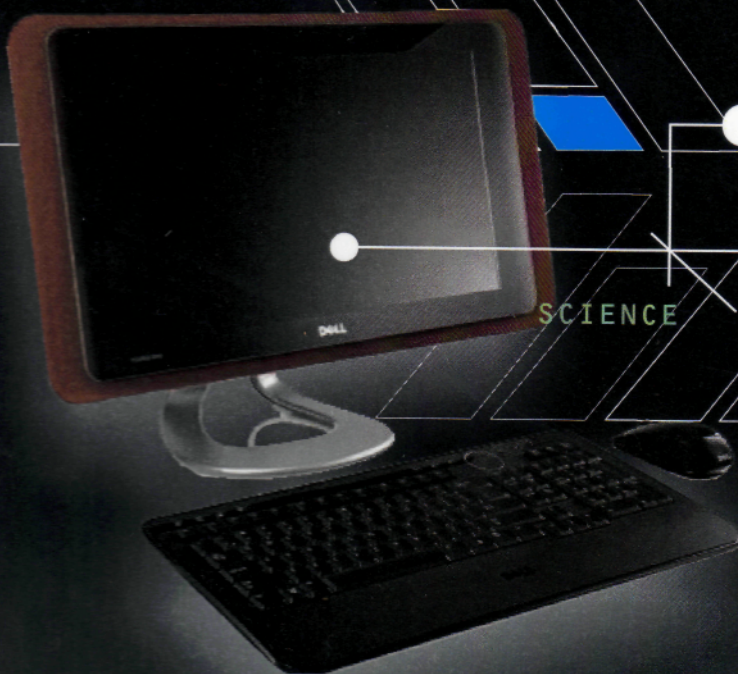
KNOWLEDGE  
TECHNOLOGY  
INFORMATION

ENGLISH - MALAY

COMPUTER SKILL  
SYSTEMS

SCIENCE

HUMANITY



Norazah Yusof  
Dayang Norhayati Abang Jawawi  
Radziah Mohamad  
Norianah Mohd. Yassin  
Paridah Samsuri

Faculty of Computer Science & Information Systems  
Universiti Teknologi Malaysia



# PROGRAMMING TECHNIQUE I

## (C++)

---

**Norazah Yusof**

**Dayang Norhayati Abang Jawawi**

**Noraniah Mohd Yassin**

**Paridah Samsuri**

**Radziah Mohamad**

**Copyright © 2007, 2008, 2009, 2010**

All rights reserved. No part of this publication may be reproduced or distributed in any form or by any means, or stored in a data base or retrieval system, or transmitted in any form or by any means, electronics, mechanical, photocopying or otherwise, without the prior written permission of the authors.

### **Disclaimer**

This workbook and its contents are intended solely for the use of the subject Programming Technique I to be taught at the Faculty of Computer Science and Information Systems, Universiti Teknologi Malaysia, Skudai. The algorithms and programs in this workbook have been included for their instructional value. They have been tested but are not guaranteed for any particular purpose. The authors do not offer any warranties or representations nor do they accept any liabilities with respect to their use. The authors reserve the right to revise this publication and make changes from time to time in its content without notice.

**Forth Edition**  
**July 2010**

## CONTENTS

<b>LAB</b>	<b>TOPIC</b>	<b>PAGE</b>
	<b>INTRODUCTION</b>	<b>iii</b>
	<b>TABLE OF CONTENTS</b>	<b>v</b>
	<b>TERMS</b>	<b>viii</b>
<b>1</b>	<b>RUNNING THE C++ PROGRAM</b>	<b>1</b>
	Objectives	1
	Lab Exercises :	1
	Exercise 1	1
	Exercise 2	10
	Exercise 3	12
<b>2</b>	<b>DESIGNING PSEUDO CODE AND FLOW CHART USING MIROSOFT WORD</b>	<b>17</b>
	Objectives	17
	Lab Exercises :	17
	Exercise 1	17
	Exercise 2	26
	Exercise 3	27
<b>3</b>	<b>DESIGN PSEUDO CODE AND FLOW CHART TO SOLVE SELECTION AND LOOP PROBLEM</b>	<b>31</b>
	Objectives	31
	Lab Exercises :	31
	Exercise 1	33
	Exercise 2	37
	Exercise 3	41
<b>4</b>	<b>CONVERTING ALGORITHM TO C++ CODE</b>	<b>45</b>
	Objectives	45
	Lab Exercise :	45
	Exercise 1	45
	Exercise 2	53
	Exercise 3	54

<b>5</b>	<b>WORKING WITH DATA</b>	<b>57</b>
	Objectives	57
	Lab Exercise :	57
	Exercise 1	57
	Exercise 2	62
	Exercise 3	65
<b>6</b>	<b>INPUT &amp; OUTPUT</b>	<b>69</b>
	Objectives	69
	Lab Exercise :	69
	Exercise 1	69
	Exercise 2	74
	Exercise 3	79
<b>7</b>	<b>SELECTION OR DECISION</b>	<b>81</b>
	Objectives	81
	Lab Exercise :	81
	Exercise 1	81
	Exercise 2	96
	Exercise 3	101
<b>8</b>	<b>LOOP</b>	<b>107</b>
	Objectives	107
	Lab Exercise :	107
	Exercise 1	107
	Exercise 2	118
	Exercise 3	121
<b>9</b>	<b>NESTED LOOP</b>	<b>125</b>
	Objectives	125
	Lab Exercise :	125
	Exercise 1	125
	Exercise 2	131
	Exercise 3	133

<b>10</b>	<b>PREDEFINED FUNCTIONS</b>	<b>137</b>
	Objectives	137
	Lab Exercise :	137
	Exercise 1	137
	Exercise 2	141
	Exercise 3	144
<b>11</b>	<b>USER-DEFINED FUNCTION</b>	<b>147</b>
	Objectives	147
	Lab Exercise :	147
	Exercise 1	147
	Exercise 2	158
	Exercise 3	163
<b>12</b>	<b>ARRAY</b>	<b>171</b>
	Objectives	171
	Lab Exercises :	171
	Exercise 1	171
	Exercise 2	176
	Exercise 3	185