Pearson Edexcel Level 1/Level 2 GCSE

Computer Science

Practical Programming

Controlled Assessment Material

For use from January 2017 to May 2017

Paper Reference

1CP0/02

You must have: firesideFixtures.txt

firesideResult.txt test_plan.doc

Instructions

- You must complete all tasks.
- You must use a computer to complete these tasks.
- You may **not** have access to the internet.
- You may have access to a printer.
- You may use a calculator.
- You will be given access to relevant files during the controlled assessment.
- All files must be saved and kept secure in the folder specified by your centre between sessions. You will not have access to these files between sessions.
- You must save the final versions of your files in the **CA folder** indicated by your centre.

Information

- The total mark for this controlled assessment is 50.
- The marks for **each** task are shown in brackets.
- The total time for the controlled assessment is 15 hours.
- A guide to how much time you should spend is shown at the end of each task.
- Tasks labelled with an **asterisk** (*) are ones where the quality of your written communication will be assessed
 - you should take particular care on these tasks with your spelling, punctuation and grammar, as well as the clarity of expression.

Advice

- Read each task carefully before you start to answer it.
- Attempt every task.

Turn over ▶



Controlled assessment tasks

The controlled assessment tasks should be completed using Python, Java or any C-derived language.

If you use a software development kit such as Xcode or Visual Studio then you must indicate which code you have written.

Context: Fireside

Dennis runs an annual gaming league for the online card game, Fireside. Players from the United Kingdom, the United States, and Australia play Fireside. They pay an entry fee to take part. Dennis arranges the fixtures between players and informs them of the times and dates that they need to play.

You will complete tasks to produce parts of a system that will:

- allow players to register for the league
- calculate and display their entry fee
- track fixtures and results from the league.

Features

- The user interface must be text-based.
- Players must be able to enter their registration information.
- Dennis must be able to calculate the entry fee for each player.
- Dennis must be able to:
 - search for fixtures
 - view the results of completed fixtures
 - view the current leader board of the league.

You have been asked to write programs to:

- accept player information
- calculate and display the entry fee
- display fixtures, results, and the leader board.

You must complete the following tasks.

Task		Features	Marks	Suggested Time		
1	Registering a new player Program with comments	 Prompt the player to enter personal details Display the player's personal details 	8	1½ hours		
2	Calculating an entry fee Design, program, test, evaluate	Input player detailsGenerate the entry fee	18	5½ hours		
3	Creating a fixture manager Design, program, test, evaluate	Input fixtures and results from a fileGenerate a leader board	24	8 hours		

A summary of the files supplied to you and a checklist of files you should submit is given on **page 11**.

Task 1: Registering a new player

Players need to enter their personal details in order to enter the league.

Requirements

Here is an outline design for your program.

- Display a title stating: League registration.
- Ask the player to enter: first name, last name, nickname, and email address.
- Ask the player to enter a skill level, using E for 'Expert' or C for 'Casual'.
- Display the player's personal details on the screen.
 - If the player entered E then 'Expert' should be displayed; if they entered C then 'Casual' should be displayed.
- Ask the player to confirm that all of the personal details are correct.
 - If any detail is incorrect, ask the player to re-enter all of the personal details and display them again.
- Return to the title message.

ask	
ite a program to implement this design. It mments to explain how it works.	must be easy to read and include
ve the final version of your source code as a folder .	a file called register_player in the
u are advised to spend no more than 1½	hours on Task 1.
	(Total for Task 1 = 8 marks)

Task 2: Calculating an entry fee

The program should calculate an entry fee for each player. This calculation should take into account the skill level of the player.

The system should display the fee in the appropriate currency, using these exchange rates:

- £ sterling for all UK players; no exchange rate required
- £1 = 1.50 US dollars
- £1 = 2.00 AU dollars.

The entry fee will consist of:

- £10 per player
- an additional fee of £35 for 'Expert' players or £20 for 'Casual' players.

Fee calculator requirements

- The fee calculator should start with a welcome message.
- It should ask the user for the player's:
 - email address
 - skill level (E for expert, C for casual)
 - country (UK, US, AU).
- It should then calculate the entry fee.
- The fee should be displayed in the correct currency, using the following abbreviations: USD, AUD, GBP.
- It should then ask if the user wishes to calculate another fee.

The data output from this activity does not need to be saved.

Your task

- **2** (a) (i) Develop a program to meet these requirements. It must be easy to read and include comments to explain how it works. You are expected to decompose your program into subprograms. The quality of your program design will be assessed using the source code you submit.
 - (ii) Write and implement a plan to test that the program works correctly and that the requirements have been met. Use the **test_plan.doc** template provided. A copy of this is shown in *Appendix C*.

Save the final version of your source code as a file called **fee_calculator** in the **CA folder**.

Save your test plan in a file called **fee_test_plan.doc** in the **CA folder**.

- *(b) Write an evaluation of your program that:
 - assesses how well your program meets the fee calculator requirements
 - explains how your program calculates the fee.

You should use correct technical terms where appropriate.

Save your evaluation in a file called **fee_evaluation.doc** in the **CA folder**.

You are advised to spend no more than 4½ hours on developing and testing the program, and 1 hour on the evaluation.

(Programming and testing = 12 marks)

(Evaluation = 6 marks)

(Total for Task 2 = 18 marks)

Task 3: Creating a fixture manager

Dennis needs to keep track of which fixtures have been played, their results and the current leader board. You will write a program to enable this to happen.

The program will sort and search the file **firesideFixtures.txt** to select and display information about fixtures, and the file firesideResults.txt to calculate leader board standings.

The **firesideFixtures.txt** file shows: Fixture Number, Fixture Date, Fixture Time, Player 1 Nickname, Player 2 Nickname, Fixture Played, Winning Nickname.

The **firesideResults.txt** file shows: Player Nickname, Matches Played, Matches Won, Matches Lost.

Copies of these files are shown in *Appendices A* and *B*.

Fixture manager requirements

Four options should be displayed for Dennis to select from.

ī						
Option A	Search for a fixture					
Option B	Outstanding fixtures					
Option C	Display leader board					
Enter O to quit						

- Dennis must be able to select an option or enter 'Q' to quit the fixture manager.
- Data on fixtures and results must be read from the **firesideFixtures.txt** and firesideResults.txt files respectively.
- The program should work for all of the records from either the **firesideFixtures.txt** or firesideResults.txt files.

Option A must provide a prompt for the user to enter a fixture number.

- User input must be validated.
- It must find the details for this fixture number.
- It must display the details in this format:

Fixture	Fixture	Player 1	Player 2	Fixture	Winning
Number	Date	Nickname	Nickname	Played	Nickname
fixtureNumber	fixtureDate	player1Nickname	player2Nickname	fixturePlayed	winningNickname

- If the fixture number is not found, a suitable error message must be displayed.
- The options menu should be displayed again.
- Data on fixtures and results must be read from **firesideFixtures.txt** file.

Option B must show all fixtures that have not yet been played (totalOutstanding).

- It must show the fixture details for all fixtures that have not yet been played.
- It must display the total number of fixtures that have not yet been played.
- It must display the details in this format:

Fixture Number	Fixture Date	Fixture Time	Player 1 Nickname	Player 2 Nickname
fixtureNumber	fixtureDate	fixtureTime	player1Nickname	player2Nickname
fixtureNumber	fixtureDate	fixtureTime	player1Nickname	player2Nickname
fixtureNumber	fixtureDate	fixtureTime	player1Nickname	player2Nickname
fixtureNumber	fixtureDate	fixtureTime	player1Nickname	player2Nickname

Total number of fixtures outstanding: *totalOutstanding*

Data on fixtures and results must be read from **firesideFixtures.txt** file.

Option C must calculate the points totals for each player from the **firesideResults.txt** file and display them in a leader board.

- It must award three points per win.
- It must only include players in the leader board who have won at least one match.
- It must display the details in this format:

Player Nickname	Matches Played	Matches Won	Matches Lost	Points
playerNickname	matchesPlayed	matchesWon	matchesLost	points
playerNickname	matchesPlayed	matchesWon	matchesLost	points
playerNickname	matchesPlayed	matchesWon	matchesLost	points
playerNickname	matchesPlayed	matchesWon	matchesLost	points
playerNickname	matchesPlayed	matchesWon	matchesLost	points

Your task

- (a) (i) Develop a program to meet the requirements. It must be easy to read and include comments to explain how it works. You are expected to decompose your program into subprograms. The quality of your program design will be assessed using the source code.
 - (ii) Write and implement a test plan to ensure that the program works correctly and that the requirements have been met. Use the **test_plan.doc** template provided. A copy of this is shown in *Appendix C*.

Save the final version of your source code as a file called **fixture_manager** in the **CA folder**.

Save your test plan as a file called **fixture test plan.doc** in the **CA folder**.

- *(b) Write an evaluation of your program that:
 - assesses how well your program meets the requirements
 - explains what method you used to extract information for each fixture from the data files.

You should use correct technical terms where appropriate.

Save your evaluation as a file called **fixture_evaluation.doc** in the **CA folder**.

You are advised to spend no more than $6\frac{1}{2}$ hours on developing and testing the program, and $1\frac{1}{2}$ hours on the evaluation.

(Programming and testing = 15 marks) (Evaluation = 9 marks) (Total for Task 3 = 24 marks)

TOTAL FOR PAPER = 50 MARKS

Files supplied to candidates

Purpose	File name	File type
Fixtures	firesideFixtures	.txt
Results	firesideResults	.txt
Test plan template	test_plan	.doc

Checklist of files for the candidate to submit:

Task	File name	File type		
1 program	register_player	program source code		
2 program	fee_calculator	program source code		
2 test plan	fee_test_plan	document		
2 evaluation	fee_evaluation	document		
3 program	fixture_manager	program source code		
3 test plan	fixture_test_plan	document		
3 evaluation	fixture_evaluation	document		

Appendix A

You have been given the file **firesideFixtures.txt**. A copy of the file is shown here.

The data is shown as 'Fixture Number, Fixture Date, Fixture Time, Player 1 Nickname, Player 2 Nickname, Fixture Played, Winning Nickname'.

- 1,02/09/15,18:00,RNGesus,Ingsoc,Y,Ingsoc
- 2,03/09/15,18:00,M'lady,Napoleon Wilson,Y,Napoleon Wilson
- 3,04/09/15,18:00,Ripley,Billy Casper,Y,Billy Casper
- 4,05/09/15,18:00,Jenkins,Tyler,Y,Jenkins
- 5,06/09/15,18:00,Kes,Leeroy,Y,Leeroy
- 6,07/09/15,18:00,Magnitude,Space Pirate,Y,Magnitude
- 7,08/09/15,18:00,Big Boss,Esports,Y,Esports
- 8,09/09/15,18:00,Einstein100,Big Brother,Y,Big Brother
- 9,10/09/15,18:00,Macho Man,Game Dude,Y,Macho Man
- 10,11/09/15,18:00,Otacon,Dennis,Y,Otacon
- 11,12/09/15,18:00,Napoleon Wilson,Ingsoc,Y,Napoleon Wilson
- 12,13/09/15,18:00,Otacon,RNGesus,Y,Otacon
- 13,14/09/15,18:00,M'lady,Billy Casper,Y,Billy Casper
- 14,15/09/15,18:00,Ripley,Tyler,Y,Ripley
- 15,16/09/15,18:00,Jenkins,Leeroy,Y,Jenkins
- 16,17/09/15,18:00,Kes,Space Pirate,Y,Kes
- 17,18/09/15,18:00,Magnitude,Esports,Y,Esports
- 18,19/09/15,18:00,Big Boss,Big Brother,Y,Big Boss
- 19,20/09/15,18:00,Einstein100,Game Dude,Y,Game Dude
- 20,21/09/15,18:00,Macho Man,Dennis,Y,Dennis
- 21,22/09/15,18:00,Billy Casper,Ingsoc,Y,Ingsoc
- 22,23/09/15,18:00,Napoleon Wilson,RNGesus,Y,RNGesus
- 23,24/09/15,18:00,M'lady,Tyler,Y,M'lady
- 24,25/09/15,18:00,Ripley,Leeroy,Y,Ripley
- 25,26/09/15,18:00,Jenkins,Space Pirate,Y,Space Pirate
- 26,27/09/15,18:00,Kes,Esports,Y,Kes
- 27,28/09/15,18:00,Magnitude,Big Brother,Y,Magnitude

- 28,29/09/15,18:00,Big Boss,Game Dude,Y,Big Boss
- 29,30/09/15,18:00,Einstein100,Dennis,Y,Einstein100
- 30,01/10/15,18:00,Otacon,Macho Man,Y,Otacon
- 31,02/10/15,18:00,Tyler,Ingsoc,Y,Ingsoc
- 32,03/10/15,18:00,Billy Casper,RNGesus,Y,RNGesus
- 33,04/10/15,18:00,Otacon,Napoleon Wilson,Y,Napoleon Wilson
- *34,05/10/15,18:00,M'lady,Leeroy,Y,Leeroy*
- 35,06/10/15,18:00,Ripley,Space Pirate,Y,Space Pirate
- 36,07/10/15,18:00,Jenkins,Esports,Y,Jenkins
- 37,08/10/15,18:00,Kes,Big Brother,Y,Kes
- 38,09/10/15,18:00,Magnitude,Game Dude,Y,Magnitude
- 39,10/10/15,18:00,Big Boss,Dennis,Y,Big Boss
- 40,11/10/15,18:00,Einstein100,Macho Man,Y,Einstein100
- 41,12/10/15,18:00,Leeroy,Ingsoc,Y,Leeroy
- 42,13/10/15,18:00,Tyler,RNGesus,Y,RNGesus
- 43,14/10/15,18:00,Billy Casper,Napoleon Wilson,Y,Billy Casper
- 44,15/10/15,18:00,M'lady,Space Pirate,Y,Space Pirate
- 45,16/10/15,18:00,Ripley,Esports,Y,Ripley
- 46,17/10/15,18:00,Jenkins,Big Brother,Y,Jenkins
- 47,18/10/15,18:00,Kes,Game Dude,Y,Kes
- 48,19/10/15,18:00,Magnitude,Dennis,Y,Dennis
- 49,20/10/15,18:00,Big Boss,Macho Man,Y,Big Boss
- 50,21/10/15,18:00,Otacon,Einstein100,Y,Otacon
- 51,22/10/15,18:00,Space Pirate,Ingsoc,Y,Space Pirate
- 52,23/10/15,18:00,Leeroy,RNGesus,Y,Leeroy
- 53,24/10/15,18:00,Tyler,Napoleon Wilson,Y,Napoleon Wilson
- 54,25/10/15,18:00,Otacon,Billy Casper,Y,Billy Casper
- 55,26/10/15,18:00,M'lady,Esports,Y,M'lady
- 56,27/10/15,18:00,Ripley,Big Brother,Y,Ripley
- 57,28/10/15,18:00,Jenkins,Game Dude,Y,Game Dude

58,29/10/15,18:00,Kes,Dennis,Y,Kes

59,30/10/15,18:00,Magnitude,Macho Man,Y,Macho Man

60,31/10/15,18:00,Big Boss,Einstein100,Y,Einstein100

61,01/11/15,18:00,Esports,Ingsoc,Y,Esports

62,02/11/15,18:00,Space Pirate,RNGesus,Y,RNGesus

63,03/11/15,18:00,Leeroy,Napoleon Wilson,Y,Leeroy

64,04/11/15,18:00,Tyler,Billy Casper,Y,Billy Casper

65,05/11/15,18:00,M'lady,Big Brother,Y,Big Brother

66,06/11/15,18:00,Ripley,Game Dude,Y,Game Dude

67,07/11/15,18:00,Jenkins,Dennis,Y,Jenkins

68,08/11/15,18:00,Kes,Macho Man,Y,Kes

69,09/11/15,18:00,Magnitude,Einstein100,Y,Einstein100

70,10/11/15,18:00,Otacon,Big Boss,Y,Otacon

71,11/11/15,18:00,Big Brother,Ingsoc,Y,Big Brother

72,12/11/15,18:00,Esports,RNGesus,Y,Esports

73,13/11/15,18:00,Space Pirate,Napoleon Wilson,Y,Napoleon Wilson

74,14/11/15,18:00,Leeroy,Billy Casper,Y,Billy Casper

75,15/11/15,18:00,Otacon,Tyler,Y,Otacon

76,16/11/15,18:00,M'lady,Game Dude,Y,M'lady

77,17/11/15,18:00,Ripley,Dennis,Y,Dennis

78,18/11/15,18:00,Jenkins,Macho Man,Y,Jenkins

79,19/11/15,18:00,Kes,Einstein100,Y,Einstein100

80,20/11/15,18:00,Magnitude,Big Boss,Y,Big Boss

81,21/11/15,18:00,Game Dude,Ingsoc,Y,Game Dude

82,22/11/15,18:00,Big Brother,RNGesus,Y,Big Brother

83,23/11/15,18:00,Esports,Napoleon Wilson,Y,Esports

84,24/11/15,18:00,Space Pirate,Billy Casper,Y,Billy Casper

85,25/11/15,18:00,Leeroy,Tyler,Y,Leeroy

86,26/11/15,18:00,M'lady,Dennis,Y,Dennis

87,27/11/15,18:00,Ripley,Macho Man,Y,Ripley

88,28/11/15,18:00,Jenkins,Einstein100,Y,Jenkins

89,29/11/15,18:00,Kes,Big Boss,Y,Big Boss

90,30/11/15,18:00,Otacon,Magnitude,Y,Magnitude

91,01/12/15,18:00,Dennis,Ingsoc,Y,Dennis

92,02/12/15,18:00,Game Dude,RNGesus,Y,RNGesus

93,03/12/15,18:00,Big Brother,Napoleon Wilson,Y,Big Brother

94,04/12/15,18:00,Esports,Billy Casper,Y,Esports

95,05/12/15,18:00,Space Pirate,Tyler,Y,Space Pirate

96,06/12/15,18:00,Otacon,Leeroy,Y,Leeroy

97,07/12/15,18:00,M'lady,Macho Man,Y,Macho Man

98,08/12/15,18:00,Ripley,Einstein100,Y,Einstein100

99,09/12/15,18:00,Jenkins,Big Boss,Y,Jenkins

100,10/12/15,18:00,Kes,Magnitude,Y,Kes

101,11/12/15,18:00,Macho Man,Ingsoc,Y,Ingsoc

102,12/12/15,18:00,Dennis,RNGesus,Y,RNGesus

103,13/12/15,18:00,Game Dude,Napoleon Wilson,Y,Napoleon Wilson

104,14/12/15,18:00,Big Brother,Billy Casper,Y,Big Brother

105,15/12/15,18:00,Esports,Tyler,Y,Esports

106,16/12/15,18:00,Space Pirate,Leeroy,Y,Space Pirate

107,17/12/15,18:00,M'lady,Einstein100,Y,Einstein100

108,18/12/15,18:00,Ripley,Big Boss,Y,Big Boss

109,19/12/15,18:00,Jenkins,Magnitude,Y,Magnitude

110,20/12/15,18:00,Otacon,Kes,Y,Kes

111,21/12/15,18:00,Einstein100,Ingsoc,Y,Einstein100

112,22/12/15,18:00,Macho Man,RNGesus,Y,RNGesus

113,23/12/15,18:00,Dennis,Napoleon Wilson,Y,Napoleon Wilson

114,24/12/15,18:00,Game Dude,Billy Casper,Y,Game Dude

115,25/12/15,18:00,Big Brother,Tyler,Y,Big Brother

116,26/12/15,18:00,Esports,Leeroy,Y,Esports

117,27/12/15,18:00,Otacon,Space Pirate,Y,Otacon

118,28/12/15,18:00,M'lady,Big Boss,Y,M'lady

119,29/12/15,18:00,Ripley,Magnitude,Y,Magnitude

120,30/12/15,18:00,Jenkins,Kes,Y,Kes

121,31/12/15,18:00,Big Boss,Ingsoc,Y,Ingsoc

122,01/01/16,18:00,Einstein100,RNGesus,,

123,02/01/16,18:00,Macho Man,Napoleon Wilson,,

124,03/01/16,18:00,Dennis,Billy Casper,,

125,04/01/16,18:00,Game Dude,Tyler,,

126,05/01/16,18:00,Big Brother,Leeroy,,

127,06/01/16,18:00,Esports,Space Pirate,,

128,07/01/16,18:00,M'lady,Magnitude,,

129,08/01/16,18:00,Ripley,Kes,,

130,09/01/16,18:00,Otacon,Jenkins,,

131,10/01/16,18:00,Magnitude,Ingsoc,,

132,11/01/16,18:00,Big Boss,RNGesus,,

133,12/01/16,18:00,Einstein100,Napoleon Wilson,,

134,13/01/16,18:00,Macho Man,Billy Casper,,

135,14/01/16,18:00,Dennis,Tyler,,

136,15/01/16,18:00,Game Dude,Leeroy,,

137,16/01/16,18:00,Big Brother,Space Pirate,,

138,17/01/16,18:00,Otacon,Esports,,

139,18/01/16,18:00,M'lady,Kes,,

140,19/01/16,18:00,Ripley,Jenkins,,

141,20/01/16,18:00,Kes,Ingsoc,,

142,21/01/16,18:00,Magnitude,RNGesus,,

143,22/01/16,18:00,Big Boss,Napoleon Wilson,,

144,23/01/16,18:00,Einstein100,Billy Casper,,

145,24/01/16,18:00,Macho Man,Tyler,,

146,25/01/16,18:00,Dennis,Leeroy,,

147,26/01/16,18:00,Game Dude,Space Pirate,,

148,27/01/16,18:00,Big Brother,Esports,,

149,28/01/16,18:00,M'lady,Jenkins,,

150,29/01/16,18:00,Otacon,Ripley,,

151,30/01/16,18:00,Jenkins,Ingsoc,,

152,31/01/16,18:00,Kes,RNGesus,,

153,01/02/16,18:00,Magnitude,Napoleon Wilson,,

154,02/02/16,18:00,Big Boss,Billy Casper,,

155,03/02/16,18:00,Einstein100,Tyler,,

156,04/02/16,18:00,Macho Man,Leeroy,,

157,05/02/16,18:00,Dennis,Space Pirate,,

158,06/02/16,18:00,Game Dude,Esports,,

159,07/02/16,18:00,Otacon,Big Brother,,

160,08/02/16,18:00,M'lady,Ripley,,

161,09/02/16,18:00,Ripley,Ingsoc,,

162,10/02/16,18:00,Jenkins,RNGesus,,

163,11/02/16,18:00,Kes,Napoleon Wilson,,

164,12/02/16,18:00,Magnitude,Billy Casper,,

165,13/02/16,18:00,Big Boss,Tyler,,

166,14/02/16,18:00,Einstein100,Leeroy,,

167,15/02/16,18:00,Macho Man,Space Pirate,,

168,16/02/16,18:00,Dennis,Esports,,

169,17/02/16,18:00,Game Dude,Big Brother,,

170,18/02/16,18:00,Otacon,M'lady,,

171,19/02/16,18:00,M'lady,Ingsoc,,

172,20/02/16,18:00,Ripley,RNGesus,,

173,21/02/16,18:00,Jenkins,Napoleon Wilson,,

174,22/02/16,18:00,Kes,Billy Casper,,

175,23/02/16,18:00,Magnitude,Tyler,,

176,24/02/16,18:00,Big Boss,Leeroy,,

177,25/02/16,18:00,Einstein100,Space Pirate,,

178,26/02/16,18:00,Macho Man,Esports,,

179,27/02/16,18:00,Dennis,Big Brother,,

180,28/02/16,18:00,Otacon,Game Dude,,

181,29/02/16,18:00,Otacon,Ingsoc,,

182,01/03/16,18:00,M'lady,RNGesus,,

183,02/03/16,18:00,Ripley,Napoleon Wilson,,

184,03/03/16,18:00,Jenkins,Billy Casper,,

185,04/03/16,18:00,Kes,Tyler,,

186,05/03/16,18:00,Magnitude,Leeroy,,

187,06/03/16,18:00,Big Boss,Space Pirate,,

188,07/03/16,18:00,Einstein100,Esports,,

189,08/03/16,18:00,Macho Man,Big Brother,,

190,09/03/16,18:00,Dennis,Game Dude,,

Appendix B

You have been given the file **firesideResults.txt**. A copy of the file is shown here.

The data is shown as 'Player Nickname, Matches Played, Matches Won, Matches Lost'.

Leeroy, 19, 7, 12

Jenkins, 19,8,11

Tyler, 19,0,19

Napoleon Wilson, 19,7,12

Big Boss, 19, 7, 12

Game Dude, 19, 5, 14

Macho Man, 19, 3, 16

Space Pirate, 19,6,13

Billy Casper, 19,7,12

Otacon, 19,7,12

Big Brother, 19,7,12

Ingsoc,19,5,14

Ripley, 19, 5, 14

M'lady,19,4,15

Einstein100,19,8,11

Dennis,19,5,14

Esports, 19, 8, 11

RNGesus, 19,7,12

Kes, 19, 9, 10

Magnitude, 19, 6, 13

Appendix C

You have been given the file test_plan.doc. A copy of the file is shown here.

Pass/Fail							
Actual result							
Expected result							
Test data							
Description of test							
Test							