Coursework Task

Intermediate 2 Information Systems

Valid for session 2010/2011 only

Publication code: BB3417

Coursework Task

Subject: Information Systems

Level: Intermediate 2

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Introduction

Organisation and Conditions for Assessment

Organisation and Conditions for Assessment

The assessment is designed to test each candidate's ability to apply knowledge and understanding and practical skills, developed through study of the Database Systems and Using Information Units. The mark out of 30 should be submitted to the SQA unscaled. This will be combined with the examination mark out of 70 to establish the candidate's overall grade of award. This mark should also be used in preparation of estimate grades.

The notional design length for the assessment is 8 - 10 hours. However, a candidate may be allowed longer than this if required.

The assessment is to be undertaken under "open book" conditions, but under supervision by the tutor to ensure that the work submitted is the candidate's own work. The tutor may give the candidate hints and/or help if requested. Any such help should be reflected in the marks awarded. Once the task has been completed and marked, it should not be returned to the candidate for further work.

These instructions are designed to be used in conjunction with the data files provided with the electronic distribution of the task. These can be downloaded from the SQA secure website.

The files to be downloaded should include :
- The 2010/2011 Intermediate 2 Information Systems Coursework Task
- FunFitDB database
- FunFitDB Task 5-8 database
- Early bird discount spreadsheet
- Renewal Letter for mail merge
- FunFitnessLogo graphic

Candidates are not required to spend time entering data into a database. Instead, the data should be prepared beforehand and provided to candidates by the centre.

To facilitate this, database files for Microsoft Access and FileMaker Pro have been provided for this task. The files contain or represent a number of tables with data entered. The appropriate file(s) should be made available to the candidates.

Centres using alternative relational database software can use the accompanying data files, which contain tab-delimited data required for the tables. The centre should set up tables as appropriate within the database software and import the data provided. The resulting database file should then be made available to the candidates.

Two versions of a database are being supplied this year. It is essential that candidates are issued with the correct version at the appropriate times. They must not be given access to the second version until they have submitted answers to prior tasks.

Candidates should be given a copy of the marking grid before starting the task so that they are aware of the mark distribution for each part.

Special Arrangements for Intermediate 2 Coursework 2010-2011

Centres are asked to pay special attention to the following arrangements.

- Candidates are not required to spend time entering data into a database. Instead, the data should be prepared beforehand and provided to candidates by the centre. To facilitate this, Microsoft Access (2003 format) and Filemaker (v.7) files as well as a text (tab) delimited file have been provided. Centres using other systems will require to create both versions of the database from the tab separated file provided. This file can also be used if centres encounter any difficulties with the supplied Access or Filemaker databases.

- In a change from previous years, two versions of the database have been included. The **first database** contains the **Membership** table of the system. Candidates will be required to create the **Centre** table from the data dictionary and then set up the relationships between the two tables. Candidates will be required to submit a printout of the Documenter (or equivalent screen shots) of the **Centre table only** as evidence for Task 3. Evidence for Task 4 should also be generated from this version of the database.

- Task 3 asks candidates to print out a copy of the design of the Centre table. This is to provide evidence that the correct field types have been used and all necessary validation checks implemented. The assessor should help candidates produce this printout without penalty.

- Task 4 asks candidates to print out a copy of the relationship between the tables. The assessor should help candidates produce this printout without penalty.

- Candidates will **not** use their database structures to complete Tasks 5-8. Instead, centres should issue candidates with the second, fully populated database.

- The **second database** is a complete implementation of the system. This working database should be issued to candidates **after** Task 4 has been submitted. Candidates **must** use this working database to complete Tasks 5-8.

- Additional notes follow which detail how candidate evidence is to be generated.

  - In FileMaker Pro, to get a printout of the design, candidates should adhere to the following instructions.

    (1) Select the "Define" option from the File menu and then select the "Database" option from the sub-menu.
    (2) Click on the Tables tab.
    (3) Highlight both tables by clicking on the name of the first table then holding down the shift key and clicking on the other table.
    (4) Click on the Print button.

  - In MS Access, to get a printout of the design, candidates should adhere to the following instructions.

    (1) Select the "Analyze" option from the Tools menu and then select the "Documenter" option from the sub-menu.
    (2) Select the table(s) required and then click Options button.
    (3) Make sure that the following options are checked/selected:

- Include for Table
  - Properties
  - Relationships
- Include for Fields
  - Names, Data Types, Sizes and Properties
- Include for Indexes
  - Names and Fields

(4) Click on OK
(5) The required table design is displayed on screen and can be printed.
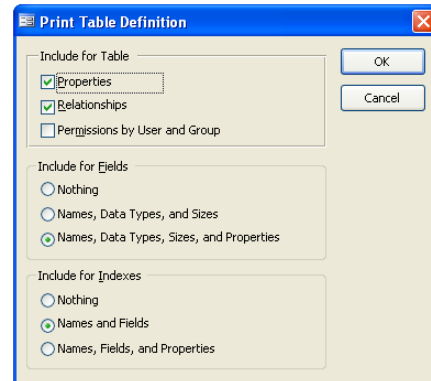
- Printing Relationships in FileMaker 8.
  (1) Select the "Define" option from the File menu and then select the "Database" option from the sub-menu.
  (2) Click on the Relationships tab then click on the Print button.

- Printing Relationships in Access
  (1) Open the Relationships window.
  (2) Select the "Print Relationships" option from the File menu.

Alternatively, screendumps of the evidence would also be acceptable.

Section 1

Coursework Task

Intermediate 2 Information Systems
Coursework Task 2010/2011

Fun & Fitness run a number of sports clubs such as swimming pools, astroturf, fitness gyms and leisure centres. Members of the public can join each sports club by buying an annual membership. After joining, each member can use the facilities or attend classes run in the club for no extra charge. In some clubs, personal trainers are available.

Fun & Fitness store details about members of each sports club in a database.

A sample record is shown below.

Membership number	GDA149
Firstname	Jessica
Surname	Olson
Address	82 Vel Street
Town	Allentown
Postcode	J0 5QW
Date of birth	24/06/1954
Month of renewal	October
Gender	F
Type of membership	Adult
Club ref	SP324

Fun & Fitness decide to add the following information about each sports club to the database.

Field Name	Field Type	Field Size	Primary Key	Sample Data
Club ref	Text	5	Yes	SP433
Club name	Text	25	No	Waves
Location	Text	25	No	Brockton
Club type	Text	15	No	swimming pool
Date opened	Date		No	12/04/1998
Personal trainer	Boolean		No	No

Your teacher/lecturer will provide you with the database file **FunFitDB**. **You must use this version to complete Tasks 1-4**.

What you have to do

	Tasks	Evidence Required
1	*Open the file called **FunFitDB**.* (Using a relational database application, add a new table called **Centre** that can be used to store information about each sports club run by Fun & Fitness. You should use the design shown on the previous page.	
2	There are four types of sports clubs — gym, astroturf, swimming pool, leisure centre. Alter your table design so that the **Club type** field has a restricted choice validation check set to allow **only** these four options to be entered.	
3	Print out a copy of your design for the **Centre** table. This should show the field types, field sizes and validation checks.	Printout of the **Centre** table design showing field types, field sizes and validation checks.
4	Link the **Centre** table to the **Membership** table by using the **Club ref** field. Print out a copy of the relationship showing the link between the tables.	Printout/screendump of the relationship window showing the link between the two tables.

You must now submit Tasks 1-4 to your teacher/lecturer

Your teacher/lecturer will provide you with the database file **FunFitDB Task 5 -8. You must use this version to complete tasks 5, 6, 7 and 8**

What you have to do (continued)

	Tasks	Evidence Required
5	Create a simple report/layout to display the entire contents of the **Centre** table. Produce a **one page** printout using this report/layout ensuring that all fieldnames and data can be clearly seen. **Your name must be included in the report as a header or footer**.	Printout of the **Centre** table report/layout.
6	Produce a printout of a report/layout showing members of sports clubs which are leisure centres whose membership is due for renewal in September. The printout should display the following fields: Membership number, Firstname, Surname, Address, Town, Postcode, Club name, Club type, Type of membership and Month of renewal. Save your work as Task 6.	Printout of all leisure centre members whose membership is due in September in a report/layout as specified.
7	A special discount promotion is to be offered to Student and Adult members of gyms with a personal trainer. Produce a printout of a report/layout showing Adult and Student members of the gyms with a personal trainer. The printout should display only the following fields: Firstname, Surname, Type of membership and Club name. Save your work as Task 7.	Printout of all adult and student members of gyms with personal trainer available in a report/layout as specified.
8	Special female only training sessions are to be offered for swimming pool members. Produce a printout of a report/layout showing all female swimming pool members. The report data should be listed in alphabetical order of club name. If a swimming pool has two or more members they should be listed in alphabetical order of member surname. The printout should display only the following fields: Club name, Firstname and Surname. Save your work as Task 8	Sorted printout of all female swimming pool members in a report/layout as specified.

Collect all printouts in the order they were asked for. Ensure your name and task number is printed on each report before handing to your teacher/lecturer.

Fun & Fitness have decided to offer discounts to people who renew their membership promptly. The manager asks you to update the spreadsheet displaying the annual membership fees and the early bird discount.

	A	B	C
1	Type of Membership	Annual Membership Fee	Early Bird Discount
2	Adult	£100.00	£15.00
3	Senior	£30.00	
4	Student	£50.00	
5	Child	£15.00	

What you have to do (continued):

	Tasks	Evidence Required
9	Note: Your teacher/lecturer will provide you with the file *Early Bird Discount* containing the spreadsheet data. Open the file called **Early Bird Discount**. If the Annual Membership Fee is £50 or more, then a 15% discount is given, otherwise 10% discount is given. Enter a suitable formula in column C to automatically calculate the Early Bird Discount.	
10	Format the spreadsheet as shown above. Save your work as Task 10.	
11	Print two copies of your spreadsheet ─ one showing the answers and another showing the formula used. Your name must be included on each printout.	Two printouts of spreadsheet ─ one showing answers and one showing formulas.

The manager of Fun & Fitness asks you to prepare a letter to be sent to all the leisure centre members whose membership is due in September.

Before completing the following tasks, make sure you have the following:

- File called *renewal letter* containing the text for the letter
- Results from the query in **Task 6**
- Table of membership fees from **Task 10**
- File called *FunFitnessLogo*
- Copy of *Appendix 1*

Look at Appendix 1.
It contains the standard letter to be used to send to members about their membership renewal.

The renewal letter should be personalised using the data from the database. The highlighted items should be replaced with data from the database query you created during Task 6.

The letter includes the table of membership fees you completed in Task 10.

The file containing the company logo is to be included in the letter heading.

What you have to do (continued)

	Tasks	Evidence Required
12	Open the file called *renewal letter*. Insert placeholders in the places shown for the personal information held in the database about leisure centre members whose membership is due in September.	
13	Create the letter heading as shown in Appendix 1 by • Inserting the logo supplied into the correct place and typing the company name and address. • Formatting the company name and address using a similar font, size and style. • Adding a border around the letter heading.	
14	Add the table of membership rates you completed in Task 10 into the letter in the appropriate place.	
15	Complete the blank standard letter by • Formatting the letter using similar size, style, font and alignment as shown in Appendix 1. • Inserting your name at the bottom of the letter where indicated. Save as Task 15	

| 16 | Print the completed letter showing the placeholders. | Printout of blank standard letter. |
| 17 | Merge the renewal letter with the database query you created during Task 6 and print the personalised letters. | Printout of personalised letters for each leisure centre membership due for renewal in September. |

(30 marks)

Collect all printouts in the order they were asked for. Ensure your name and task number is on each printout before handing to your teacher/lecturer.

	Fun & Fitness
FUN & FITNESS (logo)	**Head Office**
	Ace Road
	Lowhall
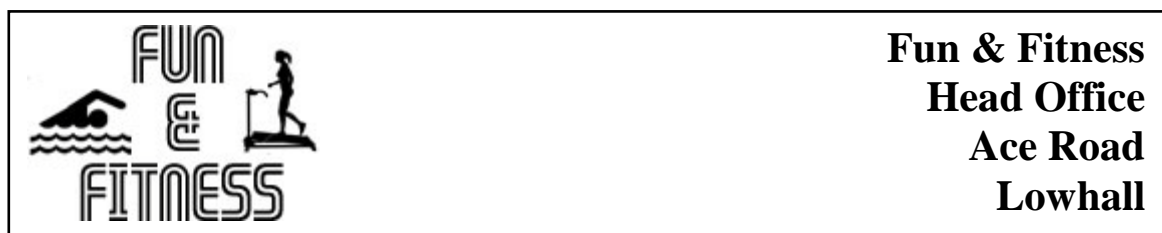
Date : 15 August 2010

Sylvia Duffy
75 Vitae Street
Lowhall
EB3 3ZM

Membership Reference Number: QF1203

Dear Sylvia,

It has been great having you as a member of Waves over the last year. We hope that you have enjoyed your membership and are enjoying the benefits of a healthier lifestyle.

As you are probably aware, your Senior membership is due to expire in May. If you renew your membership before the beginning of the month you are entitled to our Early Bird Discount.

The annual membership fees are outlined below.

Type of Membership	Annual Membership Fee	Early Bird Discount
Adult	£100.00	£15.00
Senior	£30.00	£3.00
Student	£50.00	£7.50
Child	£15.00	£1.50

Please complete the membership renewal form and hand it in with your payment the next time you visit Waves.

Remember, it is important that you continue to train regularly in order to achieve your fitness goals.

Regards,

(your name in here)
Fun and Fitness.

Section 2

Marking Information

Marking Grid

Name _____   **Date** _____

Topic			Possible Marks	Marks Gained	Comment
Task 1─4	Creation of Centre Table	Creation of table	3,2,1,0		
		Restricted choice	1,0		
		Link centre and membership tables	1,0		
Task 5	Report	Report/Layout printed	1,0		
Task 6	Search	Correct search	1,0		
		Report/Layout printed	1,0		
Task 7	Search	Correct search	2,1,0		
		Report/Layout printed	1,0		
Task 8	Search and Sort	Search correct	1,0		
		Sort correct	2,1,0		
		Report/Layout printed	1,0		
Tasks 9─11	Spreadsheet	Calculate discount	3,2,1,0		
		Format spreadsheet	2,1,0		
		Print	1,0		
Tasks 12─17	Personalised Letters	Add placeholders	1,0		
		Create and format letter heading	3,2,1,0		
		Insert table	1,0		
		Format letter	2,1,0		
		Merge letters	2,1,0		
	Overall Total		**30**		

Appendix 1

Detailed Marking Instructions

The following guidelines assume that all work was carried out by the candidate on their own (or with the assistance of open book materials). Any assistance by the assessor should be reflected in a reduction of the number of marks awarded.

Creation of Centre Table	Creation of table	3,2,1,0	Accurate creation of • table fields (1 mark) • field types (1 mark) • field sizes (1 mark) as specified without any help
	Restricted choice	1,0	Club type set to restricted choice ─ only astroturf, gym, leisure centre, swimming pool values accepted.
	Link centre and membership tables	1,0	Tables linked without teacher help using club ref ─ 1 mark

Report	Report/Layout printed	1,0	• A one page report created/printed without help. • All field names should be clearly visible. • Candidate name included in header/footer.

Search	Correct search	1,0	Complex search for • leisure centre members • renewal due in September.
	Report/Layout printed	1,0	Membership number, Firstname, Surname, Address, Town, Postcode, Club name, Club type, Type of membership and Month of renewal fields included and clearly visible.

Search	Correct search	2,1,0	Complex search for • Adult or Student members • gym • with personal trainer.
	Report/Layout printed	1,0	Firstname, Surname, Type of membership and Club name fields included and clearly visible. (No penalty for including Type of membership, Club type and/or Personal trainer)

Search and Sort	Search correct	1,0	Complex search for • Female members • swimming pool.
	Sort correct	2,1,0	Complex sort (2 marks) • club name ascending • and surname ascending Simple sort ─ 1 mark Otherwise ─ 0 mark
	Report/Layout printed	1,0	Club name, Firstname, Surname fields included and clearly visible. (No penalty for including Gender and/or Club type)

Spreadsheet	Calculate discount	3,2,1,0	=IF(B2>=50,15%*B2,10%*B2) Replicated down column correctly. Correct condition ─ 1 mark Correct TRUE calculation ─ 1 mark Correct FALSE calculation ─1 mark Other correct formulas acceptable Such as =(B2<50,10%*B2,15%*B2) =(B2>=50,0.15*B2,0.10*B2)
	Format spreadsheet	2,1,0	Correct formatting (left alignment in column A, centre alignment in column B&C, currency with 2dp in column B&C) ─ 1 mark Correct shading and text colour in row 1 ─ 1 mark
	Print 2 versions	1,0	One printed version showing answers to formula calculation and one printed version showing formula used all visible ─1 mark

Personalised Letters	Add placeholders	1,0	Insert field place holders in appropriate locations in letter ─ 1 mark More than one omitted or more than one error ─0 marks
	Create and Format Letter Heading	3,2,1,0	• Suitable font, style, size, alignment ─ 1 mark • Add border around heading ─ 1 mark • Insert logo file and applied appropriate text wrap ─ 1 mark
	Insert table	1,0	Inserted /Copy & paste spreadsheet table ─ 1 mark
	Format Letter	2,1,0	Suitable font, style, size, alignment • Any suitable font • 12/14 point size • Date/address/ref no ─ bold style • Body text fully justified 3 or 4 bullet points correct ─ 1 mark • Spaces at placeholders correct and own candidate name as sender ─ 1 mark
	Personalised Letters	2,1,0	Prints personalised letters • Correct data source ─ uses correct query results from Task 6 ─ 1 mark • Print merge letters to 3 members listed in report from Task 6 ─ 1 mark
Total Marks		**30**	

Results

Task 5

CENTRE - Task 5 by A.Candidate

Club ref	Club name	Location	Club type	Date opened	Personal trainer
SP107	Well Life	Allentown	leisure centre	14/06/2010	☐
SP128	KickAbout	Brockton	astroturf	12/04/1998	☐
SP197	Puddles	Baldwin	swimming pool	25/08/2005	☐
SP324	Trim	Allentown	gym	01/02/2000	☑
SP345	Living Fit	Lowhall	leisure centre	31/10/2006	☑
SP365	Shape Up	Baldwin	gym	25/08/2005	☑
SP433	Waves	Brockton	swimming pool	12/04/1998	☐
SP487	Toners	Lowhall	gym	05/06/2009	☐

Task 6: 3 records

Task 6 - Leisure centre members renewal due September by A.Candidate

Membership number	Firstname	Surname	Address	Town	Postcode	Club name	Club type	Type of membership	Month of renewal
PWD105	Ciaran	Shaffer	14 Ligula Street	Brockton	N7D 4MR	Well Life	leisure centre	Adult	September
WYN158	Scarlet	Duffy	26 Sed Avenue	Torrington	E90 6UL	Well Life	leisure centre	Senior	September
PHP137	Daniel	Stuart	34 Nonummy Street	Newton	RT19 4GZ	Living Fit	leisure centre	Student	September

OR

Task 6 version 2

Membership number	PWD105
Firstname	Ciaran
Surname	Shaffer
Address	14 Ligula Street
Town	Brockton
Postcode	N7D 4MR
Club name	Well Life
Club type	leisure centre
Type of membership	Adult
Month of renewal	September
Membership number	WYN158
Firstname	Scarlet
Surname	Duffy
Address	26 Sed Avenue
Town	Torrington
Postcode	E90 6UL
Club name	Well Life
Club type	leisure centre
Type of membership	Senior
Month of renewal	September
Membership number	PHP137
Firstname	Daniel
Surname	Stuart
Address	34 Nonummy Street
Town	Newton
Postcode	RT19 4GZ
Club name	Living Fit
Club type	leisure centre
Type of membership	Student
Month of renewal	September

Task 7: 20 records

Task 7

Firstname	Surname	Type of membership	Club name
Noelani	Vasquez	Student	Trim
Jessica	Olson	Adult	Trim
Russell	Phillips	Student	Trim
Fritz	Massey	Adult	Trim
Moana	Glover	Adult	Shape Up
Steven	Hogan	Adult	Trim
Madeson	Munoz	Student	Shape Up
MacKenzie	Jordan	Adult	Trim
Hayley	Conway	Adult	Shape Up
Faith	Hooper	Adult	Shape Up
Latifah	Vincent	Adult	Shape Up
Venus	Stafford	Adult	Trim
Lee	George	Student	Shape Up
Dai	Whitney	Adult	Trim
Louis	Pope	Adult	Shape Up
Daryl	Morin	Student	Trim
Jolie	Mcneil	Adult	Shape Up
Brooke	Tran	Adult	Shape Up
Kathleen	Dominguez	Student	Trim
Maggie	Bradley	Student	Shape Up

Task 8: 24 records

Task 8

Club name	Surname	Firstname
Puddles	Barrera	Georgia
Puddles	Blake	Kiona
Puddles	Church	Sage
Puddles	Greene	Dahlia
Puddles	Hinton	Charlotte
Puddles	Klein	Hilda
Puddles	Landry	Irene
Puddles	Mccall	Roberta
Puddles	Mcgowan	Yolanda
Puddles	Moran	Sally
Puddles	Schmidt	Cynthia
Puddles	Sparks	Ruth
Puddles	Stone	Chiquita
Waves	Anderson	Winifred
Waves	Bauer	Josephine
Waves	Booker	Amity
Waves	Castro	Velma
Waves	Davenport	Inga
Waves	Estrada	Hannah
Waves	Greene	Scarlet
Waves	Macdonald	Jena
Waves	Porter	Claudia
Waves	Wells	Ina
Waves	Wood	Gillian

Task 11
Spreadsheet with answers calculated

	A	B	C
1	Type of Membership	Annual Membership Fee	Early Bird Discount
2	Adult	£100.00	£15.00
3	Senior	£30.00	£3.00
4	Student	£50.00	£7.50
5	Child	£15.00	£1.50

Spreadsheet with formula showing

	A	B	C
1	Type of Membership	Annual Membership Fee	Early Bird Discount
2	Adult	100	=IF(B2>=50,B2*15%,B2*10%)
3	Senior	30	=IF(B3>=50,B3*15%,B3*10%)
4	Student	50	=IF(B4>=50,B4*15%,B4*10%)
5	Child	15	=IF(B5>=50,B5*15%,B5*10%)

Task 12: placeholders (printed at task 15)

Fun & Fitness
Head Office
Ace Road
Lowhall

Date: 15 August 2010

«Firstname» «Surname»
«Address»
«Town»
«Postcode»

Membership Reference Number: «Membership_number»

Dear «Firstname»,

It has been great having you as a member of «Club_name» over the last year. We hope that you have enjoyed your membership and are enjoying the benefits of a healthier lifestyle.

As you are probably aware, your «Type_of_membership» membership is due to expire in «Month_of_renewal». If you renew your membership before the beginning of the month you are entitled to our Early Bird Discount.

The annual membership fees are outlined below.

Please complete the membership renewal form and hand it in with your payment the next time you visit «Club_name».
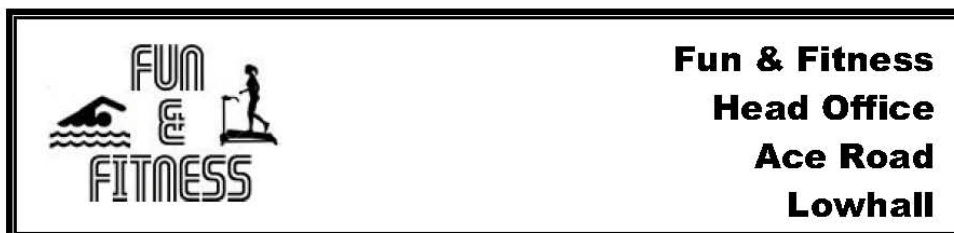
Remember, it is important that you continue to train regularly in order to achieve your fitness goals.

Regards,

(your name in here)
Fun and Fitness

Task 13-17
Three personalised letters

Fun & Fitness
Head Office
Ace Road
Lowhall

Date: 15 August 2010

Ciaran Shaffer
14 Ligula Street
Brockton
N7D 4MR

Membership Reference Number: PWD105

Dear Ciaran,

It has been great having you as a member of Well Life over the last year. We hope that you have enjoyed your membership and are enjoying the benefits of a healthier lifestyle.

As you are probably aware, your Adult membership is due to expire in September. If you renew your membership before the beginning of the month you are entitled to our Early Bird Discount.

The annual membership fees are outlined below.

Type of Membership	Annual Membership Fee	Early Bird Discount
Adult	£100.00	£15.00
Senior	£30.00	£3.00
Student	£50.00	£7.50
Child	£15.00	£1.50

Please complete the membership renewal form and hand it in with your payment the next time you visit Well Life.

Remember, it is important that you continue to train regularly in order to achieve your fitness goals.

Regards,

A Candidate
Fun and Fitness

Fun & Fitness
Head Office
Ace Road
Lowhall

Date: 15 August 2010

Scarlet Duffy
26 Sed Avenue
Torrington
E90 6UL

Membership Reference Number: WYN158

Dear Scarlet,

It has been great having you as a member of Well Life over the last year. We hope that you have enjoyed your membership and are enjoying the benefits of a healthier lifestyle.

As you are probably aware, your Senior membership is due to expire in September. If you renew your membership before the beginning of the month you are entitled to our Early Bird Discount.

The annual membership fees are outlined below.

Type of Membership	Annual Membership Fee	Early Bird Discount
Adult	£100.00	£15.00
Senior	£30.00	£3.00
Student	£50.00	£7.50
Child	£15.00	£1.50

Please complete the membership renewal form and hand it in with your payment the next time you visit Well Life.

Remember, it is important that you continue to train regularly in order to achieve your fitness goals.

Regards,

A Candidate
Fun and Fitness

Fun & Fitness
Head Office
Ace Road
Lowhall

Date: 15 August 2010

Daniel Stuart
34 Nonummy Street
Newton
RT19 4GZ

Membership Reference Number: PHP137

Dear Daniel,

It has been great having you as a member of Living Fit over the last year. We hope that you have enjoyed your membership and are enjoying the benefits of a healthier lifestyle.

As you are probably aware, your Student membership is due to expire in September. If you renew your membership before the beginning of the month you are entitled to our Early Bird Discount.

The annual membership fees are outlined below.

Type of Membership	Annual Membership Fee	Early Bird Discount
Adult	£100.00	£15.00
Senior	£30.00	£3.00
Student	£50.00	£7.50
Child	£15.00	£1.50

Please complete the membership renewal form and hand it in with your payment the next time you visit Living Fit.

Remember, it is important that you continue to train regularly in order to achieve your fitness goals.

Regards,

A Candidate
Fun and Fitness