
IMAT1215 Database Management & Reporting Implementation Assignment



Student Name: Janzeb Masiano

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Student Number: P2430705

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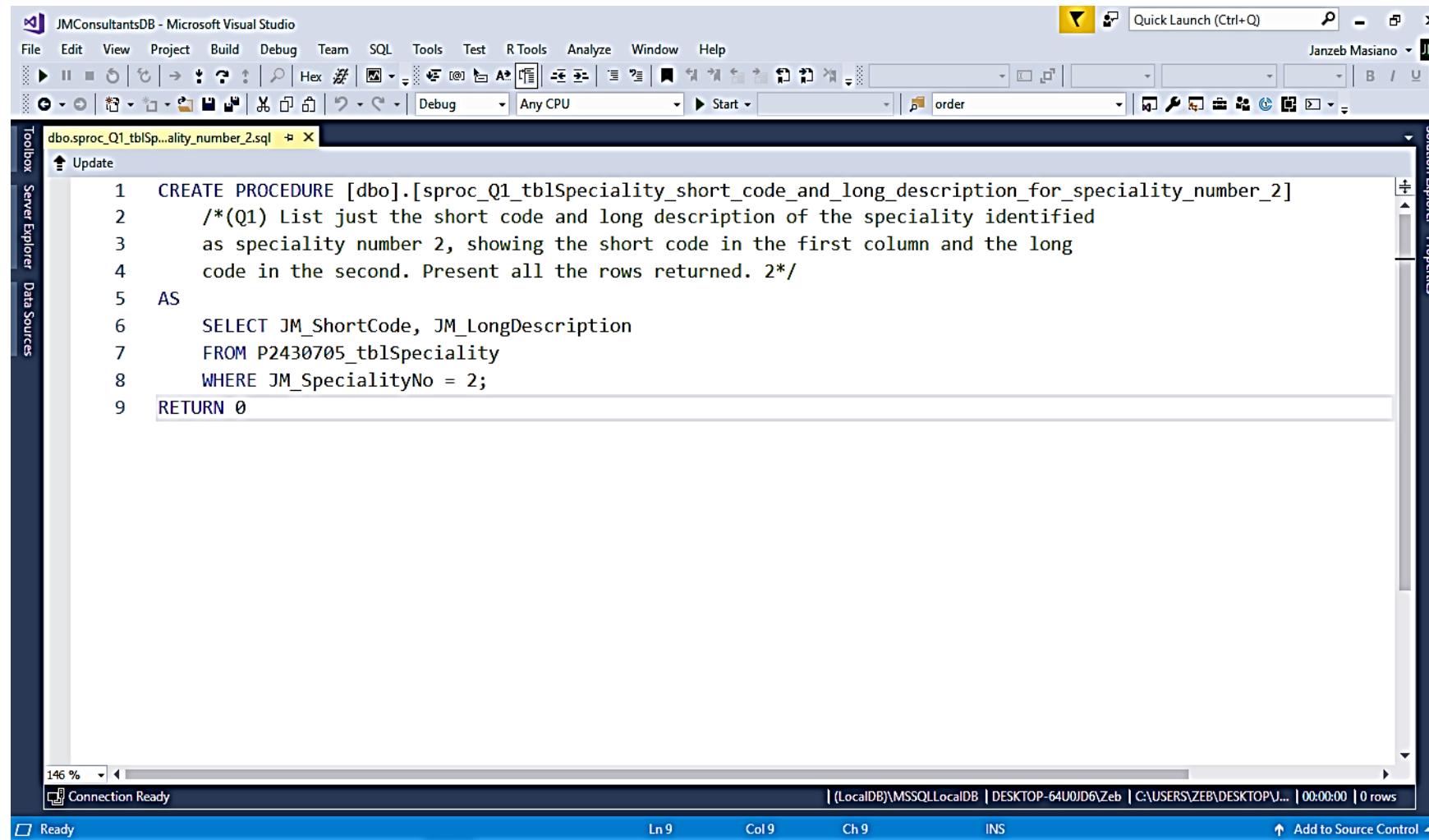
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Part 1

Screenshots of my SQL statements for each of the 10 queries and the resulting output of their execution. For each query the total number of rows in the result have been stated. Also

(Q1) Stored procedure to list just the short code and long description of the speciality identified as speciality number 2, showing the short code in the first column and the long code in the second.



The screenshot shows a Microsoft Visual Studio interface with the title bar "JMConsultantsDB - Microsoft Visual Studio". The menu bar includes File, Edit, View, Project, Build, Debug, Team, SQL, Tools, Test, R Tools, Analyze, Window, and Help. The toolbar has various icons for file operations like Open, Save, and Print. The status bar at the bottom shows "Connection Ready", "(LocalDB)\MSSQLLocalDB | DESKTOP-64U0JD6\Zeb | C:\USERS\ZEB\Desktop\J... | 0:00:00 | 0 rows", "Ln 9", "Col 9", "Ch 9", "INS", and "Add to Source Control". The main window displays a SQL script titled "dbo.sproc_Q1_tblSpeciality_number_2.sql" with the following content:

```
1 CREATE PROCEDURE [dbo].[sproc_Q1_tblSpeciality_short_code_and_long_description_for_speciality_number_2]
2     /*(Q1) List just the short code and long description of the speciality identified
3         as speciality number 2, showing the short code in the first column and the long
4         code in the second. Present all the rows returned. 2*/
5 AS
6     SELECT JM_ShortCode, JM_LongDescription
7     FROM P2430705_tblSpeciality
8     WHERE JM_SpecialityNo = 2;
9 RETURN 0
```

(Q1) Result of executing stored procedure:

The screenshot shows the Microsoft Visual Studio interface with the following details:

- Title Bar:** Masiano_Janzeb_ConsultantDB - Microsoft Visual Studio
- Toolbar:** File, Edit, View, Project, Build, Debug, Team, SQL, Tools, Test, R Tools, Analyze, Window, Help.
- Solution Explorer:** Shows the project structure.
- Properties:** Shows the properties of the selected item.
- SQLQuery4.sql:** The current file being edited, containing the following T-SQL code:

```
1 USE [C:\USERS\ZEB\DESKTOP\MASIANO_JANZEB_CONSULTANTDB\MASIANO_JANZEB_CONSULTANTDB\MASIANO_JANZEB_CONSULTANTDB.MDF]
2 GO
3
4 DECLARE @return_value Int
5
6 EXEC      @return_value = [dbo].[sproc_Q1_tblSpeciality_short_code_and_long_description_for_speciality_number_2]
7
8 SELECT  @return_value as 'Return Value'
9
10 GO
11
```
- Results Grid:** Displays the output of the executed query. It has two rows and two columns:

	JM_ShortCode	JM_LongDescription
1	DE	Dermatology

	Return Value
1	0
- Status Bar:** Query executed successfully at 16:05:23 | (LocalDB)\MSSQLLocalDB (13... | DESKTOP-64U0JD6\Zeb (55) | C:\USERS\ZEB\DESKTOP\M... | 00:00:00 | 2 rows
- Bottom Navigation:** Ready, Ln 11, Col 1, Ch 1, INS, Add to Source Control.

Number of rows in result is 1.

(Q2) Stored procedure that lists the appointments which cost 100 to 150 pounds inclusive.

The screenshot shows the Microsoft Visual Studio interface with the following details:

- Title Bar:** Masiano_Janzeb_ConsultantDB - Microsoft Visual Studio
- Menu Bar:** File, Edit, View, Project, Build, Debug, Team, SQL, Tools, Test, R Tools, Analyze, Window, Help
- Toolbar:** Standard toolbar with various icons for file operations, search, and navigation.
- Toolbox:** Standard toolbox with icons for database, project, and other development tools.
- Server Explorer:** Shows the connection status as "Connection Ready".
- Properties:** Standard properties window.
- Code Editor:** The main editor window contains the following SQL code for a stored procedure:

```
1 CREATE PROCEDURE [dbo].[sproc_Q2_tblAppointment_Appointments_that_cost_100_to_150_pounds_inclusive]
2 /*(Q2) List the appointments which cost 100 to 150 pounds inclusive.
3 Show just the date and procedure but also add another to ensure that
4 each record result is unique. Present the number of rows returned.*/
5
6 AS
7 SELECT JM_AppointmentNo, JM_Procedure, JM_AppointmentDate
8 FROM P2430705_tblAppointment
9 WHERE (JM_Cost > 99) AND (JM_Cost < 151);
10
11 RETURN 0
```

The code editor shows syntax highlighting and line numbers. The status bar at the bottom indicates the connection is ready, the current file is "C:\Users\ZEB\Desktop\M...\LocalDB\...\Zeb.mdf", and there are 0 rows affected.

(Q2) Result of executing stored procedure:

The screenshot shows the Microsoft Visual Studio interface with the following details:

- Title Bar:** Masiano_Janzeb_ConsultantDB - Microsoft Visual Studio
- Menu Bar:** File, Edit, View, Project, Build, Debug, Team, SQL, Tools, Test, R Tools, Analyze, Window, Help
- Toolbar:** Standard toolbar with various icons.
- Quick Launch:** Quick Launch (Ctrl+Q) search bar.
- User Profile:** Janzeb Masiano, JM
- Code Editor:** Shows the SQL script `dbo.sproc_Q2_tbAp...unds_inclusive.sql` and the results of the query `SQLQuery5.sql`.
- Server Explorer:** Shows the database connection path: C:\USERS\ZEB\DESKTOP\MASIANO_JANZEB_CONSULTANTDB\MASIANO_JANZEB_CONSULTANTDB\MASIANO_JANZEB_CONSULTANTDB.MDF
- Toolbox:** Standard Visual Studio toolbox.
- Data Sources:** Data sources panel.
- Solution Explorer:** Solution Explorer panel.
- Properties:** Properties panel.
- Code Editor Content:**

```
1 USE [C:\USERS\ZEB\DESKTOP\MASIANO_JANZEB_CONSULTANTDB\MASIANO_JANZEB_CONSULTANTDB\MASIANO_JANZEB_CONSULTANTDB.MDF]
2 GO
3
4 DECLARE @return_value Int
5
6 EXEC      @return_value = [dbo].[sproc_Q2_tbAppointment_Appointments_that_cost_100_to_150_pounds_inclusive]
7
8 SELECT  @return_value as 'Return Value'
9
10 GO
11
```
- Results Grid:** Shows the results of the executed query. The grid has columns: JM_AppointmentNo, JM_Procedure, and JM_AppointmentDate. The data is as follows:

	JM_AppointmentNo	JM_Procedure	JM_AppointmentDate
1	2205	Injection of both hips.Code W9040.Minor 1 + 25%.	1997-02-12
2	2341	Review consultation.Injection right knee.Code W9...	1996-06-14
3	2561	Review & injection both knees.Minor 1+25%	1997-04-11
4	2646	Review consultation.Injection left knee.W9040	1996-10-04
5	2705	Review consultation.Injection left hip.W9040	1996-12-16
6	2706	Review consultation.Injection left hip.W9040	1997-01-31

- Message Bar:** Shows the message "Return Value" with value 0.
- Status Bar:** Query executed successfully at 16:06:45 | (LocalDB)\MSSQLLocalDB (13.... | DESKTOP-64U0JD6\Zeb (55) | C:\USERS\ZEB\DESKTOP\M... | 00:00:00 | 7 rows
- Bottom Bar:** Ready, Ln 11, Col 1, Ch 1, INS, Add to Source Control.

Number of rows in result is 6.

(Q3) Stored procedure that lists the patients with the town 'rugeley' in their address.

The screenshot shows the Microsoft Visual Studio interface with the title bar "Masiano_Janzeb_ConsultantDB - Microsoft Visual Studio". The menu bar includes File, Edit, View, Project, Build, Debug, Team, SQL, Tools, Test, R Tools, Analyze, Window, and Help. The toolbar has various icons for file operations like Open, Save, and Print. The status bar at the bottom shows "Ready", "Ln 8", "Col 9", "Ch 9", "INS", and "Add to Source Control".

The main code editor window displays the SQL script "SQLQuery6.sql" which contains the following stored procedure:

```
1 CREATE PROCEDURE [dbo].[Sproc_Q3_tblPatient_Patients_with_town_rugeley_in_address]
2 /*(Q3) List the patients with the town 'rugeley' in their address.
3 The search is not case sensitive so lowercase is also valid. Present all rows returned. */
4 AS
5 SELECT *
6 FROM P2430705_tblPatient
7 WHERE JM_Address LIKE '%' + 'rugeley' + '%';
8 RETURN 0
```

The status bar at the bottom right indicates the connection is ready, the query was run against LocalDB, and it returned 0 rows.

(Q3) Result of executing stored procedure:

The screenshot shows the Microsoft Visual Studio interface with the following details:

- Title Bar:** Masiano_Janzeb_ConsultantDB - Microsoft Visual Studio
- File Menu:** File, Edit, View, Project, Build, Debug, Team, Tools, Test, R Tools, Analyze, Window, Help
- Toolbar:** Standard toolbar with icons for file operations.
- Quick Launch:** Quick Launch (Ctrl+Q) search bar.
- Solution Explorer:** Shows the project structure.
- Properties:** Properties window.
- Server Explorer:** Server Explorer window.
- Toolbox:** Toolbox window.
- Data Sources:** Data Sources window.
- Code Editor:** SQLQuery6.sql file containing the following T-SQL code:

```
1 USE [C:\USERS\ZEB\DESKTOP\MASIANO_JANZEB_CONSULTANTDB\MASIANO_JANZEB_CONSULTANTDB\MASIANO_JANZEB_CUNSLANTDB.MDF]
2 GO
3
4 DECLARE @return_value Int
5
6 EXEC      @return_value = [dbo].[Sproc_Q3_tb1Patient_Patients_with_town_rugeley_in_address]
7
8 SELECT  @return_value as 'Return Value'
9
10 GO
11
```
- Results Grid:** Shows the output of the stored procedure. The grid has columns: JM_PatientID, JM_FirstName, JM_LastName, JM_Address, JM_PostCode, JM_DateOfBirth, JM_HomePhoneNo, JM_PracticeGPN, JM_InsuranceCo, and JM_InsuranceRefNo. The data is as follows:

JM_PatientID	JM_FirstName	JM_LastName	JM_Address	JM_PostCode	JM_DateOfBirth	JM_HomePhoneNo	JM_PracticeGPN	JM_InsuranceCo	JM_InsuranceRefNo	
1	37	Trevor	George	45 Hayfield Hill Cannock Wood Rugeley Staffs	WS15 4RP	1952-08-11	NULL	132	BUPA	12345
2	121	Judith	Stuart	Freedom House Upper Longdon Rugeley Staffs	WS15 1QD	1941-06-12	NULL	122	BUPA	12345
3	124	Tina	Smith	West Lodge Chestall Park Rugeley Staffs	NULL	1952-02-08	NULL	173	BUPA	12345
4	130	Margaret	Long	11 New Road Armitage Rugeley Staffs	NULL	1943-04-18	NULL	103	BUPA	12345
5	141	Margaret	Patient	1 Joseph Dix Drive Rugeley Staffs	NULL	1931-02-07	NULL	141	BUPA	12345
6	147	Susan	Tutchings	Rockery Rise Lower way Upper Longdon Nr ...	WS15 1QQ	1982-01-08	NULL	400	BUPA	12345
7	175	Russell	Rushton	9 Peak Close Armitage Rugeley Staffs	WS15 4TY	1952-08-11	NULL	103	BUPA	12345
8	259	Thelma	Brazenhall	6 Handsacre road Handsacre Rugeley Staffs	WS12 4DQ	1954-01-06	NULL	400	BUPA	12345
9	266	Donna	Smith	5 Cheviot drive Rugeley Staffs WS15 2XL	NULL	1975-01-06	NULL	400	BUPA	12345
10	287	Roy	El Maghoub	Hunters Ride 12 Upper Way Upper Longdon ...	WS15 1PZ	1955-10-29	NULL	78	BUPA	12345
11	739	Joan	Kingston	7 Garden Drive Rugeley Staffs	WS15 1BX	1962-02-10	NULL	151	BUPA	12345

- Return Value:** A table showing the return value of the stored procedure, which is 0.
- Status Bar:** Query executed successfully at 16:08:26 | (LocalDB)\MSSQLLocalDB (13.... | DESKTOP-64U0JD6\Zeb (55) | C:\USERS\ZEB\DESKTOP\M... | 00:00:00 | 12 rows
- Bottom Bar:** Ready, Add to Source Control.

Number of rows in result is 11.

(Q4) Stored procedure to find only medical centres that have no postcode recorded in the database.

The screenshot shows the Microsoft Visual Studio interface with the title bar "Masiano_Janzeb_ConsultantDB - Microsoft Visual Studio". The main window displays a SQL query editor titled "SQLQuery7.sql" containing the following T-SQL code:

```
1 CREATE PROCEDURE [dbo].[sproc_Q4_tblMedicalCentre_medical_centres_that_have_no_postcode]
2 /*(Q4) Find only medical centres that have no postcode recorded in the database.*/
3 /*The results include the address for identification by location*/
4 AS
5 SELECT JM_MedicalCentreNo, JM_Address
6 FROM P2430705_tblMedicalCentre
7 WHERE JM_PostCode IS NULL;
8 RETURN 0;
```

The code is intended to create a stored procedure named [dbo].[sproc_Q4_tblMedicalCentre_medical_centres_that_have_no_postcode] which selects the JM_MedicalCentreNo and JM_Address columns from the P2430705_tblMedicalCentre table where JM_PostCode is NULL. The stored procedure ends with a RETURN 0 statement.

(Q4) Result of executing stored procedure:

The screenshot shows the Microsoft Visual Studio interface with the following details:

- Title Bar:** Masiano_Janzeb_ConsultantDB - Microsoft Visual Studio
- Menu Bar:** File, Edit, View, Project, Build, Debug, Team, SQL, Tools, Test, R Tools, Analyze, Window, Help
- Toolbar:** Standard toolbar with various icons.
- Quick Launch:** Quick Launch (Ctrl+Q)
- User Profile:** Janzeb Masiano, JM
- Code Editor:** SQLQuery7.sql * -> X dbo.sproc_Q4_tblMedicalCentre_medical_centres_that_have_no_postcode.sql
- Code:**

```
1 USE [C:\USERS\ZEB\DESKTOP\MASIANO_JANZEB_CONSULTANTDB\MASIANO_JANZEB_CONSULTANTDB\MASIANO_JANZEB_CONSULTANTDB.MDF]
2 GO
3
4 DECLARE @return_value Int
5
6 EXEC      @return_value = [dbo].[sproc_Q4_tblMedicalCentre_medical_centres_that_have_no_postcode]
7
8 SELECT  @return_value as 'Return Value'
9
10 GO
```
- Results Grid:** Shows the output of the stored procedure. The columns are JM_MedicalCentreNo and JM_Address. The data includes:

	JM_MedicalCentreNo	JM_Address
42	137	St Chad Health Centre Lichfield
43	141	Tower Hill Medical Centre Great ...
44	142	Wake Green Road Surgery Mos...
45	144	Wednesbury Medical Centre
46	147	Yew Tree Clinic Walsall
47	150	NULL
48	153	Four Crosses Road Shelfield
49	154	Four Crosses Road Shelfield Wa...
50	155	Jockey Road Sutton Coldfield
- Return Value:** A single row with value 0.
- Status Bar:** Query executed successfully at 16:11:44 | (LocalDB)\MSSQLLocalDB (13... | DESKTOP-64U0JD6\Zeb (54) | C:\USERS\ZEB\DESKTOP\M... | 00:00:00 | 51 rows
- Bottom Bar:** Ready, Ln 11, Col 1, Ch 1, INS, Add to Source Control

Number of rows in result is 50.

(Q5) Stored procedure to find the last name of all patients that have been referred for an appointment. For this query, the last name is required and each name is only displayed once.

The screenshot shows the Microsoft Visual Studio interface with the title bar "JMConsultantsDB - Microsoft Visual Studio". The menu bar includes File, Edit, View, Project, Build, Debug, Team, SQL, Tools, Test, R Tools, Analyze, Window, and Help. The toolbar has various icons for file operations like Open, Save, and Print. The status bar at the bottom shows "133 %", "Connection Ready", "(LocalDB)\MSSQLLocalDB | DESKTOP-64U0JD6\Zeb | C:\USERS\ZEB\Desktop\J... | 00:00:00 | 0 rows", "Ready", "Ln 9", "Col 1", "Ch 1", "INS", and "Add to Source Control".

The code editor window displays a stored procedure named "dbo.sproc_Q5_tblAppointment_tblPatient_Find_lastname_of_patients_referred_for_an_appointment". The code is as follows:

```
1 CREATE PROCEDURE [dbo].[sproc_Q5_tblAppointment_tblPatient_Find_lastname_of_patients_referred_for_an_appointment]
2 /*(Q5)Find the lastname of all patients that have been referred for an appointment. For
3 this query, only the lastname is required but only show each name once. Details about the
4 appointment are not to be displayed. For this query, instead of showing all the output,
5 just state the number of rows that are returned. */
6
7 /*This query will return the Patients last names who have attended an appointment and also the number
8 of appointments(number of rows of appointments) they have attended. The results are displayed in ascending
9 alphabetical order*/
10
11 AS
12 SELECT P2430705_tblPatient.JM_LastName, COUNT(P2430705_tblPatient.JM_LastName) AS Number_of_Appointments
13 FROM P2430705_tblAppointment, P2430705_tblPatient
14 WHERE P2430705_tblPatient.JM_PatientID = P2430705_tblAppointment.JM_PatientID
15 GROUP BY P2430705_tblPatient.JM_LastName
16 ORDER BY P2430705_tblPatient.JM_LastName ASC;
17 RETURN 0
```

(Q5) Result of executing stored procedure:

The screenshot shows the Microsoft Visual Studio interface with the following details:

- Title Bar:** Masiano_Janzeb_ConsultantDB - Microsoft Visual Studio
- Menu Bar:** File, Edit, View, Project, Build, Debug, Team, Tools, Test, R Tools, Analyze, Window, Help
- User Profile:** Janzeb Masiano, JM
- Toolbar:** Standard toolbar with various icons.
- Toolbox:** Standard toolbox.
- Server Explorer:** Shows the database connection path: C:\USERS\ZEB\Desktop\MASIANO_JANZEB_CONSULTANTDB\MASIANO_JANZEB_CONSULTANTDB\MASIANO_JANZEB_CONSULTANTDB.MDF
- Solution Explorer:** Standard solution explorer.
- Properties:** Standard properties window.
- Code Editor:** SQLQuery8.sql (dbo.sproc_Q5_tblAppointment_n_appointment.sql) containing the following T-SQL code:

```
1 USE [C:\USERS\ZEB\Desktop\MASIANO_JANZEB_CONSULTANTDB\MASIANO_JANZEB_CONSULTANTDB\MASIANO_JANZEB_CONSULTANTDB.MDF]
2 GO
3
4 DECLARE @return_value Int
5
6 EXEC      @return_value = [dbo].[sproc_Q5_tblAppointment_tblPatient_Find_lastname_of_patients_referred_for_an_appointment]
7
8 SELECT    @return_value as 'Return Value'
9
10 GO
```
- Results Grid:** Displays the output of the stored procedure. The results are shown in two parts:

JM_LastName	Number_of_Appointments
Wellings	3
Wheeler	1
White	7
Whitehouse	7
Whitely	6
Wilkes	2
Williams	12
Wilson	2
Withers	1
Woodcock	2
Woodman	2
Wright	10
Yates	9

Return Value
0
- Status Bar:** Query executed successfully at 16:14:12 | (LocalDB)\MSSQLLocalDB (13... | DESKTOP-64U0JD6\Zeb (55) | C:\USERS\ZEB\Desktop\M... | 00:00:00 | 304 rows
- Bottom Bar:** Ready, Add to Source Control

Number of rows in result is 303.

(Q6) Stored procedure that lists the total number of consultants that possess a speciality if any. The column containing the total number of consultants is called Number_of_Consultants_Possessing_Speciality and the column containing specialityNo is called Speciality and used to identify each total.

The screenshot shows the Microsoft Visual Studio interface with the title bar "JMConsultantsDB - Microsoft Visual Studio". The menu bar includes File, Edit, View, Project, Build, Debug, Team, SQL, Tools, Test, R Tools, Analyze, Window, and Help. The toolbar has various icons for file operations like Open, Save, and Print. The status bar at the bottom shows "146 %", "Connection Ready", "(LocalDB)\MSSQLLocalDB | DESKTOP-64U0JD6\Zeb | C:\USERS\ZEB\DESKTOP\V... | 00:00:00 | 0 rows", "Ln 12", "Col 9", "Ch 9", "INS", and "Add to Source Control".

The main area displays the SQL code for a stored procedure:

```
1 CREATE PROCEDURE [dbo].[sproc_Q6_tblConsultant_tblSpeciality_total_consultants_that_possess_each_specialityNo]
2 /*(Q6) List the total number of consultants that possess each speciality if any.
3 Give the column containing the total number of consultants a sensible name and
4 use specialityNo to identify each total. */
5 AS
6
7 SELECT P2430705_tblSpeciality.JM_SpecialityNo AS SpecialityNo,
8       COUNT(P2430705_tblConsultant.JM_SpecialityNo) AS Number_of_Consultants_Possessing_Speciality
9  FROM P2430705_tblSpeciality, P2430705_tblConsultant
10 WHERE P2430705_tblSpeciality.JM_SpecialityNo = P2430705_tblConsultant.JM_SpecialityNo
11 GROUP BY P2430705_tblSpeciality.JM_SpecialityNo;
12 RETURN 0
```

(Q6) Result of executing stored procedure:

The screenshot shows the SSMS interface with the following details:

- File Bar:** File, Edit, View, Project, Build, Debug, Team, Tools, Test, R Tools, Analyze, Window, Help, Full Screen.
- Toolbar:** Quick Launch (Ctrl+Q), Janzeb Masiano, JM.
- Query Editor:** SQLQuery1.sql * -> dbo.sproc_Q6_tblConsultant_tblSpeciality_total_consultants_that_possess_each_specialityNo.sql
- Code:**

```
1 USE [C:\USERS\ZEB\DESKTOP\JMCONS]
2 GO
3
4 DECLARE @return_value Int
5
6 EXEC      @return_value = [dbo].[sproc_Q6_tblConsultant_tblSpeciality_total_consultants_that_possess_each_specialityNo]
7
8 SELECT  @return_value as 'Return Value'
9
10 GO
```
- Results Tab:** Shows the output of the stored procedure execution.
- Result Data:** A table with two columns: SpecialityNo and Number_of_Consultants_Possessing_Speciality.

	SpecialityNo	Number_of_Consultants_Possessing_Speciality
1	1	2
2	3	3
3	4	4
4	5	3
5	6	1
6	7	1
7	8	2
8	9	1
9	10	3
10	11	1
11	12	2
12	13	3
13	21	1
14	22	1
15	23	1
16	24	1
17	25	1

- Message Tab:** Shows the value of the Return Value parameter.

	Return Value
1	0

- Status Bar:** Query executed successfully at 23:41:12 | (LocalDB)\MSSQLLocalDB (13.... | DESKTOP-64U0JD6\Zeb (56) | C:\USERS\ZEB\DESKTOP\J... | 00:00:01 | 18 rows
- Bottom Bar:** Ready, Add to Source Control.

Number of rows in result is 17.

(Q7) Stored procedure to update the details of consultant number 39 so that title number is 7, speciality number 4, and firstname initial J. The Lastname is left unchanged. Also evidence is provided that query was successful.

The screenshot shows the Microsoft Visual Studio interface with the following details:

- Title Bar:** JMConsultantsDB - Microsoft Visual Studio
- Menu Bar:** File, Edit, View, Project, Build, Debug, Team, SQL, Tools, Test, R Tools, Analyze, Window, Help
- Toolbar:** Standard toolbar with various icons for file operations, search, and navigation.
- Toolbox:** Standard toolbox with icons for various development tools.
- Solution Explorer:** Shows the project structure with "dbo.sproc_Q7_tblConsultant_number_39.sql" selected.
- Properties:** Properties window on the right side of the interface.
- Code Editor:** The main window displays the SQL script for the stored procedure:

```
1
2 CREATE PROCEDURE [dbo].[sproc_Q7_tblConsultant_Update_the_details_of_consultant_number_39]
3 /* (Q7) Update the details of consultant number 39 to the following values:
4   title number 7, speciality number 4, and firstname initial J.
5   The Lastname remains unchanged. Provide evidence that the query was successful. */
6 AS
7 UPDATE P2430705_tblConsultant
8   SET JM_TitleNo = 7,
9       JM_SpecialityNo = 4,
10      JM_FirstName = 'J'
11     WHERE JM_ConsultantNo = 39;
12
13 RETURN 0;
```

The code editor shows syntax highlighting for SQL keywords and comments. The status bar at the bottom indicates "Connection Ready" and provides database connection information: (LocalDB)\MSSQLLocalDB | DESKTOP-64U0JD6\Zeb | C:\USERS\ZEB\DESKTOP\... | 00:00:00 | 0 rows.

(Q7) Result of executing stored procedure:

The screenshot shows the Microsoft Visual Studio interface with the following details:

- Title Bar:** Masiano_Janzeb_ConsultantDB - Microsoft Visual Studio
- Menu Bar:** File, Edit, View, Project, Build, Debug, Team, SQL, Tools, Test, R Tools, Analyze, Window, Help
- Toolbar:** Standard toolbar with various icons.
- Quick Launch:** Quick Launch (Ctrl+Q)
- User Profile:** Janzeb Masiano (JM)
- Code Editor:** SQLQuery10.sql (dbo.sproc_Q7_tblConsultant_number_39.sql) is open. The code is as follows:

```
1 USE [C:\USERS\ZEB\DESKTOP\MASIANO_JANZEB_CONSULTANTDB\MASIANO_JANZEB_CONSULTANTDB\MASIANO_JANZEB_CONSULTANTDB.MDF]
2 GO
3
4 DECLARE @return_value Int
5
6 EXEC      @return_value = [dbo].[sproc_Q7_tblConsultant_Update_the_details_of_consultant_number_39]
7
8 SELECT  @return_value as 'Return Value'
9
10 GO
11
```
- Toolbars:** Server Explorer, Toolbox, Data Sources, Solution Explorer, Properties.
- Results Window:** Shows the output of the query. The T-SQL tab is selected, displaying a results grid with one row:

Return Value
1 0
- Status Bar:** Query executed successfully at 16:31:49 | (LocalDB)\MSSQLLocalDB (13.... | DESKTOP-64U0JD6Zeb (56) | C:\USERS\ZEB\DESKTOP\... | 00:00:00 | 1 rows
- Bottom Navigation:** Ready, Ln 11, Col 1, Ch 1, INS, Add to Source Control.

(Q7) Evidence, **tblConsultant** table before executing stored procedure

The screenshot shows the Microsoft Visual Studio interface with the 'Masiano_Janzeb_ConsultantDB - Microsoft Visual Studio' window open. The 'Server Explorer', 'Toolbox', and 'Data Sources' panes are visible on the left, while the 'Solution Explorer' and 'Properties' panes are on the right. The main area displays a data grid titled 'dbo.P2430705_tblConsultant [Data]' with the SQL query 'dbo.Procedure.sql *' running. The data grid shows 31 rows of consultant information with columns: JM_Consultant..., JM_TitleNo, JM_SpecialtyNo, JM_FirstName, and JM_LastName. The row at index 39 is currently selected, highlighting the values: JM_Consultant... = 5, JM_TitleNo = 10, JM_SpecialtyNo = P, JM_FirstName = Gatrad, and JM_LastName = null. The status bar at the bottom indicates '31 Rows', 'Ln 20', 'Col 1', 'INS', and 'Add to Source Control'.

	JM_Consultant...	JM_TitleNo	JM_SpecialtyNo	JM_FirstName	JM_LastName
25	1	22	H	Barsoum	
26	5	7	D	Goldin	
27	1	3	P	Francis	
28	1	8	A	Dekker	
30	5	6	M	Jackowski	
31	5	1	F	Hamilton	
32	1	5	I	Payne	
33	1	3	J	Constantine	
34	1	4	P	Pahor	
35	1	23	M	Fielding	
36	1	13	G	Sutton	
37	1	13	H	Marks	
38	5	24	D	O Hara	
39	5	10	P	Gatrad	
41	5	10	A	McLeod	
42	1	11	M	Nwokolo	
43	5	9	F	Khalil-Marsouk	
44	5	25	I	Latif	
45	1	5	J	Duncan	
46	1	10	P	Sadek	
48	1	8	M	O Hickey	
49	1	3	G	Zygmont	
50	1	5	H	Turner	
51	1	12	D	Mattar	
52	5	1	P	Kadow	
*	NULL	NULL	NULL	NULL	NULL

tblConsultant table after executing stored procedure

The screenshot shows the Microsoft Visual Studio interface with the title bar "Masiano_Janzeb_ConsultantDB - Microsoft Visual Studio". The main window displays the results of a stored procedure execution, specifically "dbo.P2430705_tblConsultant [Data]". The results are presented in a grid table with columns: JM_Consultant..., JM_TitleNo, JM_SpecialityNo, JM_FirstName, and JM_LastName. The table contains 31 rows of data. The row at index 39 is currently selected, showing values: JM_Consultant... = 39, JM_TitleNo = 7, JM_SpecialityNo = 4, JM_FirstName = J, and JM_LastName = Gatrad. The bottom status bar indicates "31 Rows", "Ln 20", "Col 1", and "Connection Ready".

JM_Consultant...	JM_TitleNo	JM_SpecialityNo	JM_FirstName	JM_LastName
25	1	22	H	Barsoum
26	5	7	D	Goldin
27	1	3	P	Francis
28	1	8	A	Dekker
30	5	6	M	Jackowski
31	5	1	F	Hamilton
32	1	5	I	Payne
33	1	3	J	Constantine
34	1	4	P	Pahor
35	1	23	M	Fielding
36	1	13	G	Sutton
37	1	13	H	Marks
38	5	24	D	O Hara
39	7	4	J	Gatrad
41	5	10	A	McLeod
42	1	11	M	Nwokolo
43	5	9	F	Khali-Marsouk
44	5	25	I	Latief
45	1	5	J	Duncan
46	1	10	P	Sadek
48	1	8	M	O Hickey
49	1	3	G	Zygmont
50	1	5	H	Turner
51	1	12	D	Mattar
52	5	1	P	Kadow
•	NULL	NULL	NULL	NULL

(Q8) Delete the practice of GP number 206 from medical centre number 86. Provide evidence that the query executed successfully.

The screenshot shows the Microsoft Visual Studio interface with the title bar "JMConsultantsDB - Microsoft Visual Studio". The menu bar includes File, Edit, View, Project, Build, Debug, Team, SQL, Tools, Test, R Tools, Analyze, Window, and Help. The toolbar has various icons for file operations like Open, Save, and Print. The status bar at the bottom shows "Ready", "Ln 7", "Col 9", "Ch 9", "INS", and "Connection Ready | (LocalDB)\MSSQLLocalDB | DESKTOP-64U0JD6\Zeb | C:\USERS\ZEB\DESKTOP\J... | 00:00:00 | 0 rows".

The code editor window displays a SQL script named "dbo.sproc_Q8_Delete_practice_of_GP_number_206_from_medical_centre_number_86.sql". The script is as follows:

```
1 CREATE PROCEDURE [dbo].[sproc_Q8_Delete_practice_of_GP_number_206_from_medical_centre_number_86]
2 /* (Q8) Delete the practice of GP number 206 from medical centre number 86.
3  Provide evidence that the query executed successfully. */
4 AS
5     DELETE P2430705_tblPracticeGP
6     WHERE (JM_GPNo = 206) AND (JM_MedicalCentreNo = 86);
7     RETURN 0;
```

The code editor has a "Toolbox" on the left, "Server Explorer" and "Data Sources" on the far left, and "Solution Explorer" and "Properties" on the right. The status bar at the bottom shows "Ready", "Ln 7", "Col 9", "Ch 9", "INS", and "Connection Ready | (LocalDB)\MSSQLLocalDB | DESKTOP-64U0JD6\Zeb | C:\USERS\ZEB\DESKTOP\J... | 00:00:00 | 0 rows".

(Q8) Result of stored procedure:

The screenshot shows the Microsoft Visual Studio interface with the following details:

- Title Bar:** Masiano_Janzeb_ConsultantDB - Microsoft Visual Studio
- Menu Bar:** File, Edit, View, Project, Build, Debug, Team, SQL, Tools, Test, R Tools, Analyze, Window, Help
- Toolbar:** Standard toolbar with various icons.
- Toolbox:** Standard toolbox.
- Data Sources:** Data sources pane.
- Server Explorer:** Server explorer pane.
- SQLQuery1.sql:** The active query editor window contains the following T-SQL code:

```
1 USE [C:\USERS\ZEB\DESKTOP\MASIANO_JANZEB_CONSULTANTDB\MASIANO_JANZEB_CONSULTANTDB\MASIANO_JANZEB_CONSULTANTDB.MDF]
2 GO
3
4 DECLARE @return_value Int
5
6 EXEC      @return_value = [dbo].[sproc_Q8_Delete_practice_of_GP_number_206_from_medical_centre_number_86]
7
8 SELECT  @return_value as 'Return Value'
9
10 GO
11
```
- Results Window:** Shows the execution results:

Return Value
1 0
- Status Bar:** Query executed successfully at 18:02:52 | (LocalDB)\MSSQLLocalDB (13.... | DESKTOP-64U0JD6\Zeb (55) | C:\USERS\ZEB\DESKTOP\M... | 00:00:00 | 1 rows
- Bottom Bar:** Ready, Ln 11, Col 1, Ch 1, INS, Add to Source Control

(Q8) Evidence to show row has been deleted: tblPracticeGP table before executing stored procedure (part 1/2)

GPNNo 206 and MedicalCentreNo 86 is visible in table

The screenshot shows the Microsoft Visual Studio interface with the 'Masiano_Janzeb_ConsultantDB - Microsoft Visual Studio' window open. The 'Toolbox' and 'Server Explorer' are visible on the left, while 'Solution Explorer' and 'Properties' are on the right. The main area displays the 'dbo.P2430705_tblPracticeGP [Data]' grid. The grid has four columns: 'JM_PracticeGPNNo', 'JM_GPNNo', 'JM_MedicalCentreNo', and 'JM_DaysPerW...'. The row for GPNNo 206 and MedicalCentreNo 86 is selected, highlighted with a blue background. The status bar at the bottom shows 'Connection Ready' and the system tray includes icons for network, battery, volume, and date/time (17:02, 23/02/2019).

JM_PracticeGPNNo	JM_GPNNo	JM_MedicalCentreNo	JM_DaysPerW...
19	144	77	1
20	106	78	2
21	104	79	1
22	143	79	4
23	89	80	2
24	146	81	1
25	110	81	1
26	159	81	2
27	185	82	4
28	106	83	2
29	164	83	2
30	126	84	1
31	197	85	2
32	206	86	1
33	184	87	1
34	171	88	5
35	193	89	3
36	156	90	1
37	94	90	2
38	128	91	3
39	172	92	4
40	174	92	1
41	140	93	5
42	129	93	1
43	84	94	3
44	123	95	5
45	97	150	4

Evidence showing table before executing stored procedure tblPracticeGP (part 2/2)

Also before executing stored procedure, GPNo 206 and MedicalCentreNo 62 exist in table

The screenshot shows a Microsoft Visual Studio interface with a database viewer window. The window title is "dbo.P2430705_tblPracticeGP [Data]". The table has four columns: JM_PracticeGPN, JM_GPN, JM_MedicalCentreNo, and JM_DaysPerW... The data grid displays 120 rows of data. Row 124 is highlighted with a blue background, showing values 206 and 62 in the first two columns. The other rows contain various numerical values.

	JM_PracticeGPN	JM_GPN	JM_MedicalCentreNo	JM_DaysPerW...
100	132	133		1
101	173	133		4
102	114	133		3
103	170	134		3
104	129	135		2
105	100	136		4
106	118	137		1
107	192	138		1
108	152	139		4
109	124	139		2
110	162	140		2
111	90	140		1
112	119	140		3
113	86	141		5
114	85	142		4
115	182	143		3
116	113	144		3
117	165	145		5
118	129	145		1
119	154	145		3
120	87	146		3
121	166	147		2
122	186	148		3
124	206	62		3
125	207	200		3
128	101	200		2
129	200	200		4

tblPracticeGP table after executing stored procedure.

Row in table containing data: JM_PracticeGPNo = 32, JM_GPNo = 206, JM_MedicalCentreNo=86 was deleted:

The screenshot shows the Microsoft Visual Studio interface with the 'Masiano_Janzeb_ConsultantDB - Microsoft Visual Studio' window open. The 'Toolbox' and 'Server Explorer' are visible on the left, while 'Solution Explorer' and 'Properties' are on the right. The main area displays a data grid titled 'dbo.P2430705_tblPracticeGP [Data]'. The grid contains 46 rows of data with the following columns: JM_PracticeGPNo, JM_GPNo, JM_MedicalCentreNo, and JM_DaysPerW... (partially visible). Row 31 is highlighted with a blue background, indicating it is selected. The status bar at the bottom shows 'Connection Ready' and file paths: '(LocalDB)\MSSQLLocalDB', 'DESKTOP-64U0JD6\Zeb', and 'C:\USERS\ZEB\Desktop\M...'. The bottom navigation bar includes '156 Rows', 'Ln 31', 'Col 1', and 'Add to Source Control'.

	JM_PracticeGPNo	JM_GPNo	JM_MedicalCentreNo	JM_DaysPerW...
19	144	77	1	
20	106	78	2	
21	104	79	1	
22	143	79	4	
23	89	80	2	
24	146	81	1	
25	110	81	1	
26	159	81	2	
27	185	82	4	
28	106	83	2	
29	164	83	2	
30	126	84	1	
31	197	85	2	
33	184	87	1	
34	171	88	5	
35	193	89	3	
36	156	90	1	
37	94	90	2	
38	128	91	3	
39	172	92	4	
40	174	92	1	
41	140	93	5	
42	129	93	1	
43	84	94	3	
44	123	95	5	
45	83	150	4	
46	107	07	4	

tblPracticeGP table after executing stored procedure.

However the other row, still remains with GPNo 206 still exists because MedicalCentreNo is 62 for this row and not 86. Thus procedure worked fine:

The screenshot shows the Microsoft Visual Studio Data Explorer interface. The title bar reads "Masiano_Janzeb_ConsultantDB - Microsoft Visual Studio". The Data Explorer window displays the results of a query against the "dbo.P2430705_tblPracticeGP [Data]" table. The table has four columns: JM_PracticeGPNo, JM_GPNo, JM_MedicalCentreNo, and JM_DaysPerW... (truncated). The data grid shows 156 rows of data. Row 124 is selected, highlighted with a blue background. The selected row contains values: JM_PracticeGPNo = 124, JM_GPNo = 206, JM_MedicalCentreNo = 62, and JM_DaysPerW... = 3. The status bar at the bottom indicates "Connection Ready" and shows the path "(LocalDB)\MSSQLLocalDB\DESKTOP-64U0JD6\Zeb\ C:\USERS\ZEB\DESKTOP\M...".

	JM_PracticeGPNo	JM_GPNo	JM_MedicalCentreNo	JM_DaysPerW...
110	162	140	2	
111	90	140	1	
112	119	140	3	
113	86	141	5	
114	85	142	4	
115	182	143	3	
116	113	144	3	
117	165	145	5	
118	129	145	1	
119	154	145	3	
120	87	146	3	
121	166	147	2	
122	186	148	3	
124	206	62	3	
125	207	200	3	
128	101	200	2	
129	208	200	4	
130	167	152	2	
132	102	200	1	
133	164	153	1	
136	82	86	2	
138	121	200	3	
140	122	200	1	
141	211	200	4	
142	130	155	2	
143	120	200	1	
147	122	155	1	

(Q9) A stored procedure to find the patients referred by GP number 160 for appointments that took place after 1996. Showing a single occurrence of the patient ID, firstname, lastname and home phone number. Sorts the result in lastname alphabetical order.

The screenshot shows the Microsoft Visual Studio interface with the following details:

- Title Bar:** JMConsultantsDB - Microsoft Visual Studio
- Toolbar:** Standard Visual Studio toolbar with icons for file operations, search, and navigation.
- Solution Explorer:** Shows the project structure with "dbo.sproc_Q9_Patients_referred_by_GP_number_160_for_appointments_after_1996.sql" selected.
- Properties:** Standard Visual Studio properties window.
- Code Editor:** The main window displays the T-SQL code for the stored procedure:

```
1 CREATE PROCEDURE [dbo].[sproc_Q9_Patients_referred_by_GP_number_160_for_appointments_after_1996]
2 /*(Q9) Find the patients referred by GP number 160 for appointments that took place after 1996.
3 Show just the patient ID, firstname, lastname and home phone number. Sort the result in lastname
4 alphabetical order. Present all rows returned. */
5 AS
6 SELECT DISTINCT
7 P2430705_tblPatient.JM_PatientID,
8 P2430705_tblPatient.JM_FirstName,
9 P2430705_tblPatient.JM_LastName,
10 P2430705_tblPatient.JM_HomePhoneNo
11 FROM P2430705_tblPatient, P2430705_tblPracticeGP, P2430705_tblAppointment
12 /* Join tblPatient and tblPractice, and find where GPNo = 160 */
13 WHERE (P2430705_tblPatient.JM_PracticeGPNo = P2430705_tblPracticeGP.JM_PracticeGPNo)
14 AND (P2430705_tblPracticeGP.JM_GPNo = 160)
15 /* And join tblPatient and tblAppointment, and find where DateTaken > 1996 */
16 AND (P2430705_tblPatient.JM_PatientID = P2430705_tblAppointment.JM_PatientID)
17 AND (P2430705_tblAppointment.JM_AppointmentDate > '31 December 1996')
18 /*GROUP BY P2430705_tblPatient.JM_PatientID*/
19 ORDER BY P2430705_tblPatient.JM_LastName;
20 RETURN 0
```

The code implements a stored procedure named [dbo].[sproc_Q9_Patients_referred_by_GP_number_160_for_appointments_after_1996]. It selects distinct patient IDs, first names, last names, and home phone numbers from three tables: P2430705_tblPatient, P2430705_tblPracticeGP, and P2430705_tblAppointment. It joins the Patient and Practice tables on their respective PracticeGPNo columns, and the Patient and Appointment tables on their PatientID columns. It filters the results to include only patients referred by GP number 160 and appointments made after December 31, 1996. The results are sorted by lastname in alphabetical order. The stored procedure ends with a RETURN 0 statement.

(Q9) Result of stored procedure:

The screenshot shows Microsoft Visual Studio with the following details:

- Title Bar:** JMConsultantsDB - Microsoft Visual Studio
- Toolbar:** Standard Visual Studio toolbar.
- Menu Bar:** File, Edit, View, Project, Build, Debug, Team, SQL, Tools, Architecture, Test, Analyze, Window, Help.
- Toolbars:** Standard, Task List, Status Bar.
- Panels:** Server Explorer, Toolbox, Data Sources, Solution Explorer, Team Explorer, Properties.
- Code Editor:** Shows T-SQL code for a stored procedure named `sproc_Q9_Patients_referred_by_GP_number_160_for_appointments_after_1996`. The code declares a return value, executes the stored procedure, and selects the return value.

```
1 USE [H:\DESKTOP\JMCONSULTANTS\MASIANOJANZEBCONSULTANTS.MDF]
2 GO
3
4 ┌DECLARE @return_value Int
5 ┘
6 EXEC    @return_value = [dbo].[sproc_Q9_Patients_referred_by_GP_number_160_for_appointments_after_1996]
7
8 SELECT  @return_value as 'Return Value'
9
10 GO
11
```

- Results Grid:** Displays the results of the query. The columns are JM_patientID, JM_FirstName, JM_LastName, and JM_HomePhoneNo. The rows show 5 patients with their names and home phone numbers.

JM_patientID	JM_FirstName	JM_LastName	JM_HomePhoneNo
51	Alan	Hazeldine	NULL
138	Jackie	Madill	NULL
17	Richard	Sharif	NULL
59	David	Watts	NULL
297	Adam	Wheeler	NULL

- Message Grid:** Shows the return value of the stored procedure.

Return Value
0

- Status Bar:** Query executed successfully at 14:25:19 | (LocalDB)\MSSQLLocalDB (13... | LEC_ADMIN\P2430705 (54) | H:\DESKTOP\JMCONSULTAN... | 00:00:00 | 6 rows
- Data Tools Operations:** Shows a list of operations for the database, including "Update for (LocalDB)\MSSQLLocalDB.H:\DESKTOP\JMCONSULTANTS\MASIANOJANZEBCONSULTANTS.MDF".

 - Update for (LocalDB)\MSSQLLocalDB.H:\DESKTOP\JMCONSULTANTS\MASIANOJANZEBCONSULTANTS.MDF 14:25:44 - 14:25:45 (0:00:01)
 - Creating update preview...
 - Displaying update preview...
 - Creating database script...
 - Executing update script on database 'H:\DESKTOP\JMCONSULTANTS\MASIANOJANZEBCONSULTANTS.MDF'...

- System Bar:** Ready, Ask me anything, Task View, Start, File Explorer, Edge, File Explorer, Word, 14:30, 04/03/2019.

Number of rows in result is 5.

(Q10) This stored procedure is meant to be used to show those procedures that have frequency of more than 5 within a specified time period

The screenshot shows the Microsoft Visual Studio interface with the following details:

- Title Bar:** JMConsultantsDB - Microsoft Visual Studio
- Menu Bar:** File, Edit, View, Project, Build, Debug, Team, SQL, Tools, Test, R Tools, Analyze, Window, Help
- Toolbar:** Standard development tools like Save, Open, Find, etc.
- Toolbox:** Standard development tools.
- Solution Explorer:** Shows the project structure with "order" selected.
- Properties:** Standard properties window.
- Code Editor:** The active file is "dbo.sproc_Q10_tbl...hin_Timeframe.sql". The code is as follows:

```
1 CREATE PROCEDURE [dbo].[sproc_Q10_tblAppointment_tblPatient_Detect_Freq_of_Procedures_within_Timeframe]
2 /* Normally, within a short period of time the instances of a particular medical procedure
3 is not expected to be more than 5. If we use this as a threshold, then if there is a
4 high frequency of certain types of medical procedures within a small time frame then
5 that would indicate a problem. We can then say there might be a cause for concern. This
6 stored procedure will select those procedures within a specified start and end date period
7 that have a high frequency of occurrence more than 5
8 */
9     @FromDate date,
10    @ToDate date
11
12 AS
13 SELECT JM_Procedure, COUNT(P2430705_tblAppointment.JM_Procedure) AS Frequency_of_Procedure
14 FROM P2430705_tblAppointment
15 WHERE P2430705_tblAppointment.JM_Procedure IS NOT NULL
16 AND (P2430705_tblAppointment.JM_AppointmentDate >= @FromDate)
17 AND (P2430705_tblAppointment.JM_AppointmentDate <= @ToDate)
18 GROUP BY P2430705_tblAppointment.JM_Procedure
19 HAVING COUNT(P2430705_tblAppointment.JM_Procedure) > 5;
20
21 RETURN 0
```

The code is a T-SQL stored procedure named [dbo].[sproc_Q10_tblAppointment_tblPatient_Detect_Freq_of_Procedures_within_Timeframe]. It takes two parameters: @FromDate and @ToDate. The procedure selects the JM_Procedure and counts the occurrences within the specified date range. It filters for non-null JM_Procedure values and groups by JM_Procedure. A HAVING clause ensures that only procedures with a count greater than 5 are returned. The procedure ends with a RETURN 0 statement.

(Q10) Result of stored procedure executed and using '1997-01-01' for @FromDate and '1998-01-01' for the ToDate:

The screenshot shows the Microsoft Visual Studio interface with the following details:

- Title Bar:** JMConsultantsDB - Microsoft Visual Studio
- Toolbar:** Standard Visual Studio toolbar with icons for file operations, search, and navigation.
- Solution Explorer:** Shows the project structure with files like "SQLQuery3.sql" and "dbo.sproc_Q10_tblAppointment_Procedures.sql".
- Properties Window:** Visible on the right side of the interface.
- Code Editor:** Displays the T-SQL code for the stored procedure:

```
1 USE [C:\USERS\ZEB\DESKTOP\JMCONSULTANTS\MASIANOJANZEBCONSULTANTS.MDF]
2 GO
3
4 DECLARE @return_value Int
5
6 EXEC      @return_value = [dbo].[sproc_Q10_tblAppointment_tblPatient_Detect_Freq_of_Procedures_within_Timeframe]
7      @FromDate = '1997-01-01',
8      @ToDate = '1998-01-01'
9
10 SELECT   @return_value as 'Return Value'
11
12 GO
13
```

- Results Window:** Shows the output of the stored procedure execution. It has three tabs: T-SQL, Results, and Message. The Results tab displays two tables:

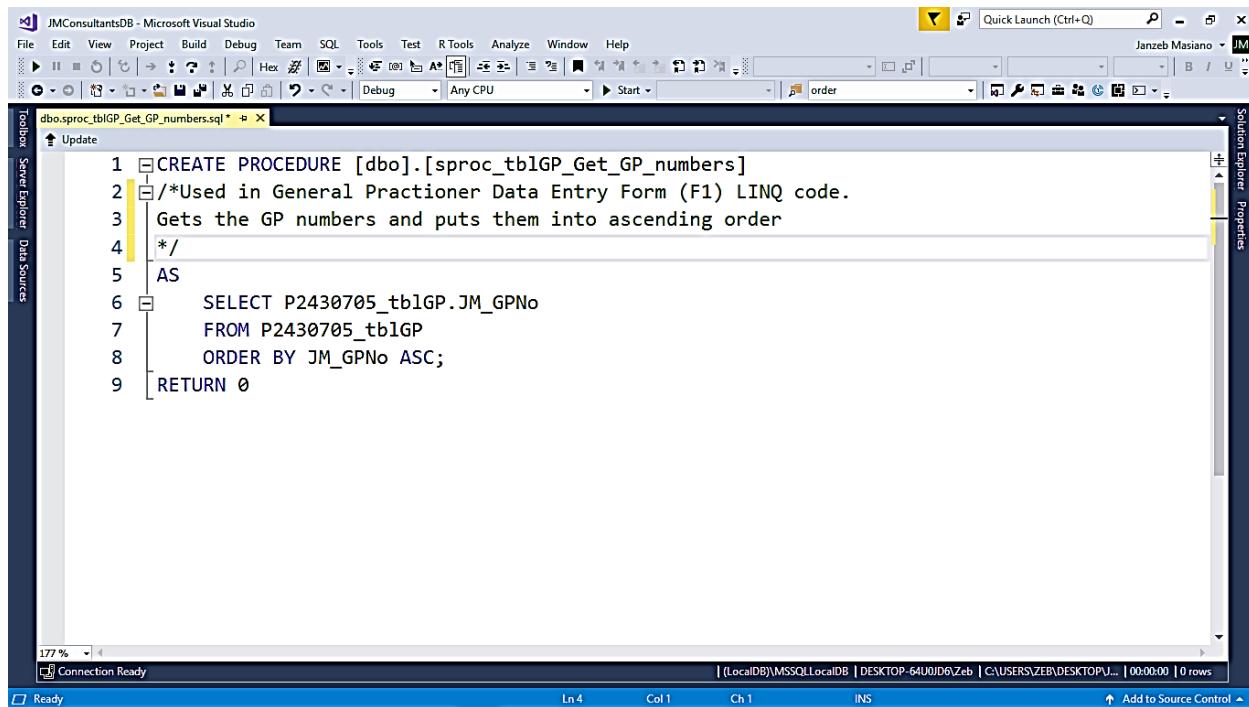
JM_Procedure	Frequency_of_Procedure
Initial consultation	85
Initial consultation.	129
Post operative Consultation.	40
Post Operative Review.	18
Post-operative review	9
Post-operative review con...	21
Review consultation	150
Review Consultation.	248

Return Value
0
- Status Bar:** Shows the message "Query executed successfully at 00:14:48" and other execution details like LocalDB connection information.

Number of rows in result is 8.

Stored Procedures Used in the System Design

Sproc_tblGP_Get_GP_numbers

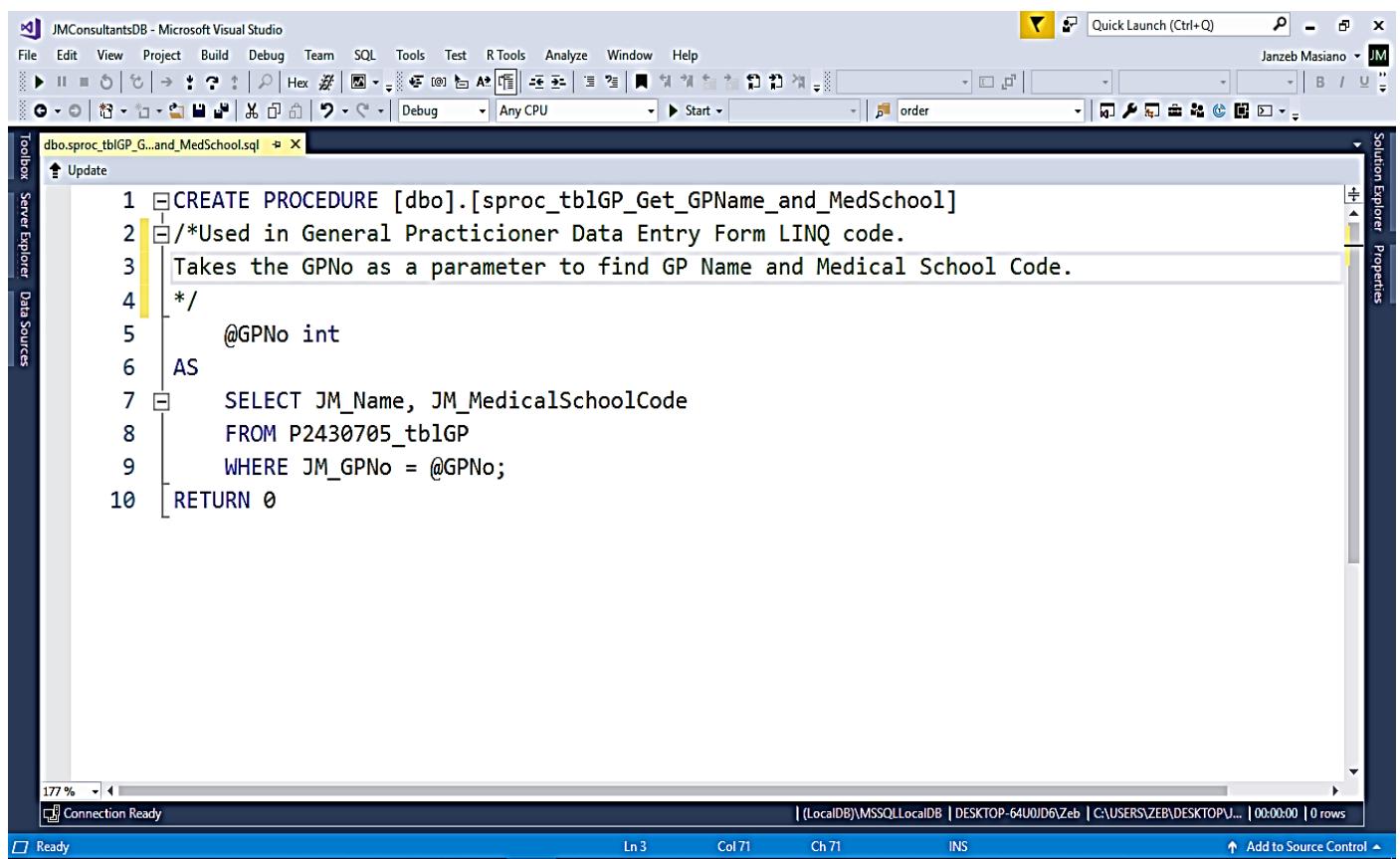


The screenshot shows the Microsoft Visual Studio interface with the title bar "JMConsultantsDB - Microsoft Visual Studio". The menu bar includes File, Edit, View, Project, Build, Debug, Team, SQL, Tools, Test, R Tools, Analyze, Window, and Help. The toolbar has various icons for file operations like Open, Save, and Print. The main code editor window displays the SQL script for the stored procedure:

```
1 CREATE PROCEDURE [dbo].[sproc_tblGP_Get_GP_numbers]
2 /*Used in General Practitioner Data Entry Form (F1) LINQ code.
3 Gets the GP numbers and puts them into ascending order
4 */
5 AS
6 SELECT P2430705_tblGP.JM_GPNo
7 FROM P2430705_tblGP
8 ORDER BY JM_GPNo ASC;
9 RETURN 0
```

The status bar at the bottom shows "Ready", "Ln 4", "Col 1", "Ch 1", "INS", and "Add to Source Control".

Sproc_tblGP_Get_GPName_and_MedSchool



The screenshot shows the Microsoft Visual Studio interface with the title bar "JMConsultantsDB - Microsoft Visual Studio". The menu bar includes File, Edit, View, Project, Build, Debug, Team, SQL, Tools, Test, R Tools, Analyze, Window, and Help. The toolbar has various icons for file operations like Open, Save, and Print. The main code editor window displays the SQL script for the stored procedure:

```
1 CREATE PROCEDURE [dbo].[sproc_tblGP_Get_GPName_and_MedSchool]
2 /*Used in General Practitioner Data Entry Form LINQ code.
3 Takes the GPNo as a parameter to find GP Name and Medical School Code.
4 */
5 @GPNo int
6 AS
7 SELECT JM_Name, JM_MedicalSchoolCode
8 FROM P2430705_tblGP
9 WHERE JM_GPNo = @GPNo;
10 RETURN 0
```

The status bar at the bottom shows "Ready", "Ln 3", "Col 71", "Ch 71", "INS", and "Add to Source Control".

Sproc_tblPracticeGP_Get_HighestPracticeGPNo

The screenshot shows the Microsoft Visual Studio interface with the title bar "JMConsultantsDB - Microsoft Visual Studio". The menu bar includes File, Edit, View, Project, Build, Debug, Team, SQL, Tools, Test, R Tools, Analyze, Window, and Help. The toolbar has various icons for file operations like Open, Save, and Print. The status bar at the bottom shows "Ready", "Ln 4", "Col 80", "Ch 80", "INS", and "Add to Source Control". The main code editor window displays the following T-SQL code:

```
1 CREATE PROCEDURE [dbo].[sproc_tblPracticeGP_Get_HighestPracticeGPNo]
2 /*Used in General Practitioner Data Entry Form (F1).
3 Gets the last (highest) Practice GP Number from the database.
4 When its used as a LINQ function the JM_PracticeGPNo in brackets is not visible,
5 so need to use AS maxJM_PracticeGPNo*/
6 AS
7 SELECT MAX(JM_PracticeGPNo) AS maxJM_PracticeGPNo
8 FROM P2430705_tblPracticeGP;
9 RETURN 0
```

Sproc_GetMedicalSchoolDetails

The screenshot shows the Microsoft Visual Studio interface with the title bar "JMConsultantsDB - Microsoft Visual Studio". The menu bar includes File, Edit, View, Project, Build, Debug, Team, SQL, Tools, Test, R Tools, Analyze, Window, and Help. The toolbar has various icons for file operations like Open, Save, and Print. The status bar at the bottom shows "Ready", "Ln 3", "Col 67", "Ch 67", "INS", and "Add to Source Control". The main code editor window displays the following T-SQL code:

```
1 CREATE PROCEDURE [dbo].[sproc_GetMedicalSchoolDetails]
2 /*Used in General Practitioner Data Entry Form (F1) LINQ code.
3 Returns the Medical School Details. Details used to populate text boxes.
4 */
5
6     @MedicalSchoolCode varchar(4)
7 AS
8     SELECT *
9     FROM P2430705_tblMedicalSchool
10    WHERE JM_MedicalSchoolCode = @MedicalSchoolCode;
11    RETURN 0
```

Sproc_Filter_by_GPName_GPNumber

The screenshot shows the Microsoft Visual Studio interface with the title bar "JMConsultantsDB - Microsoft Visual Studio". The menu bar includes File, Edit, View, Project, Build, Debug, Team, SQL, Tools, Test, R Tools, Analyze, Window, Help. The toolbar has various icons for file operations like Open, Save, Print, and Database-related functions. The status bar at the bottom shows "Ready", "Ln 10", "Col 9", "Ch 9", "INS", and "Add to Source Control". The main code editor window displays the following T-SQL code:

```
1 CREATE PROCEDURE [dbo].[sproc_Filter_by_GPName_GPNumber]
2 /*Used in General Practitioner Data Management Form (F3) for filtered search*/
3     @GPNo varchar(20),
4     @GPName varchar(20)
5 AS
6 SELECT JM_GPNo, JM_Name
7 FROM P2430705_tb1GP
8 WHERE JM_GPNo LIKE '%' + @GPNo + '%'
9 AND JM_Name LIKE '%' + @GPName + '%'
10 RETURN 0
```

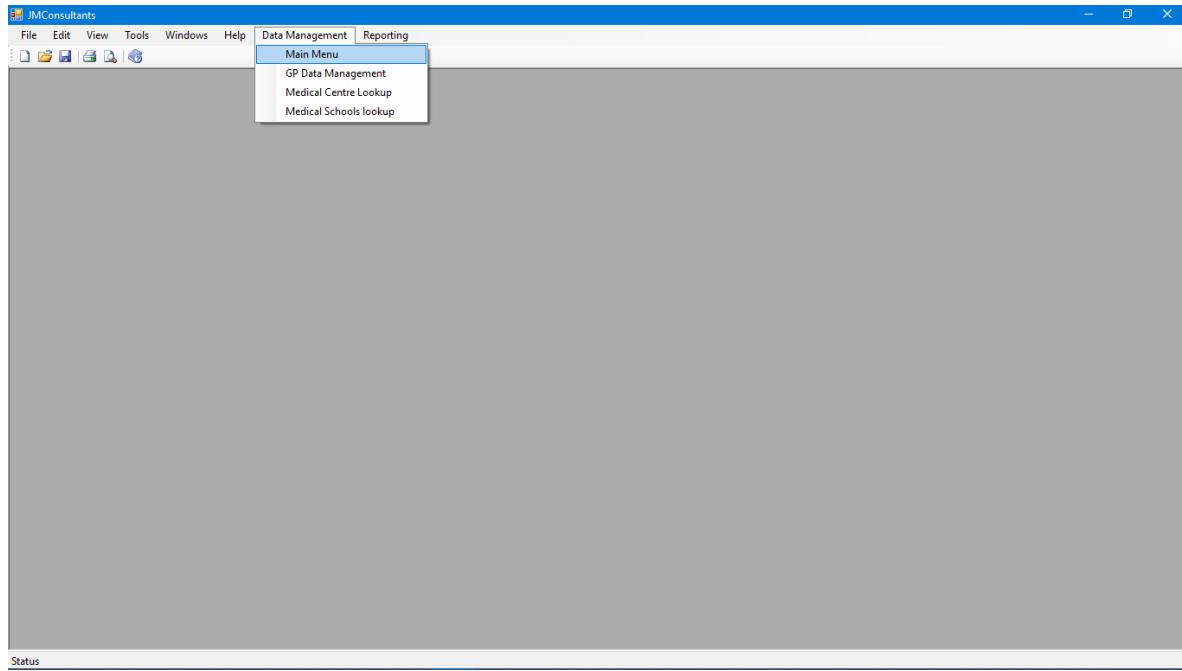
The code is intended to filter data from the table P2430705_tb1GP based on the GP Number and GP Name provided as parameters.

Part 2

This section demonstrates the functionality of the Masiano Medical Consultants System that was designed. It provides instructions on how to use the system together with accompanying screenshots.

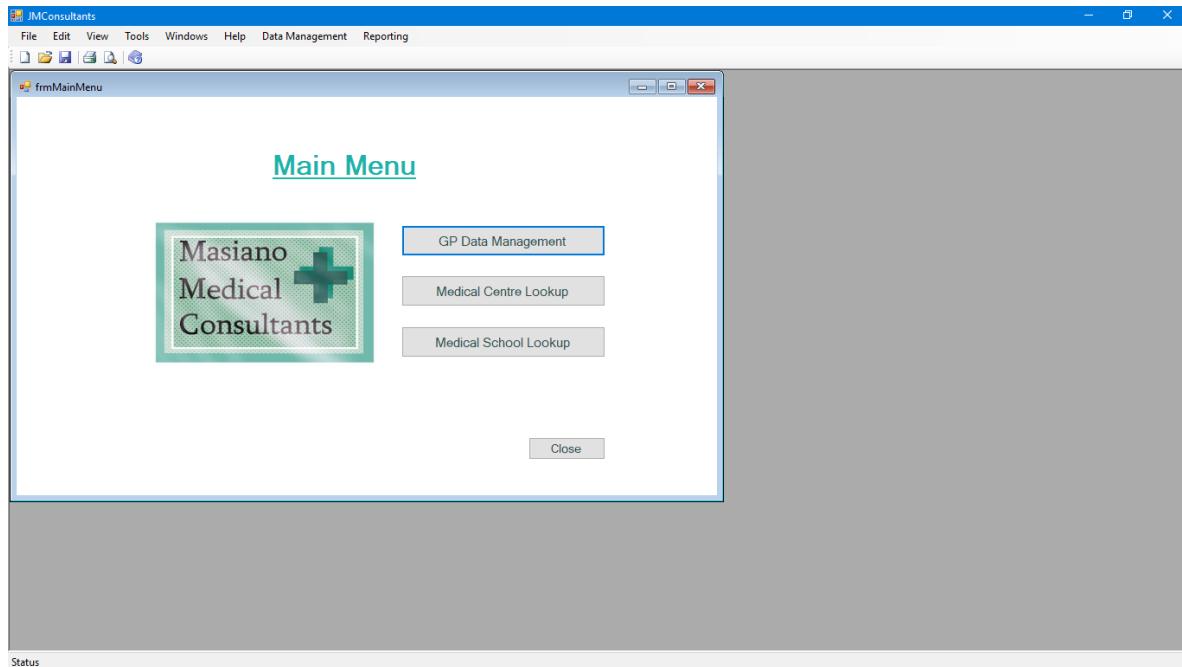
Main Access Form/MDI Form (F2)

For added flexibility, forms can be accessed via the Data Management dropdown menu of the Main Access Form or can be accessed via the main menu form. The Main Menu form is listed under Data Management.



Main Menu Form (F5)

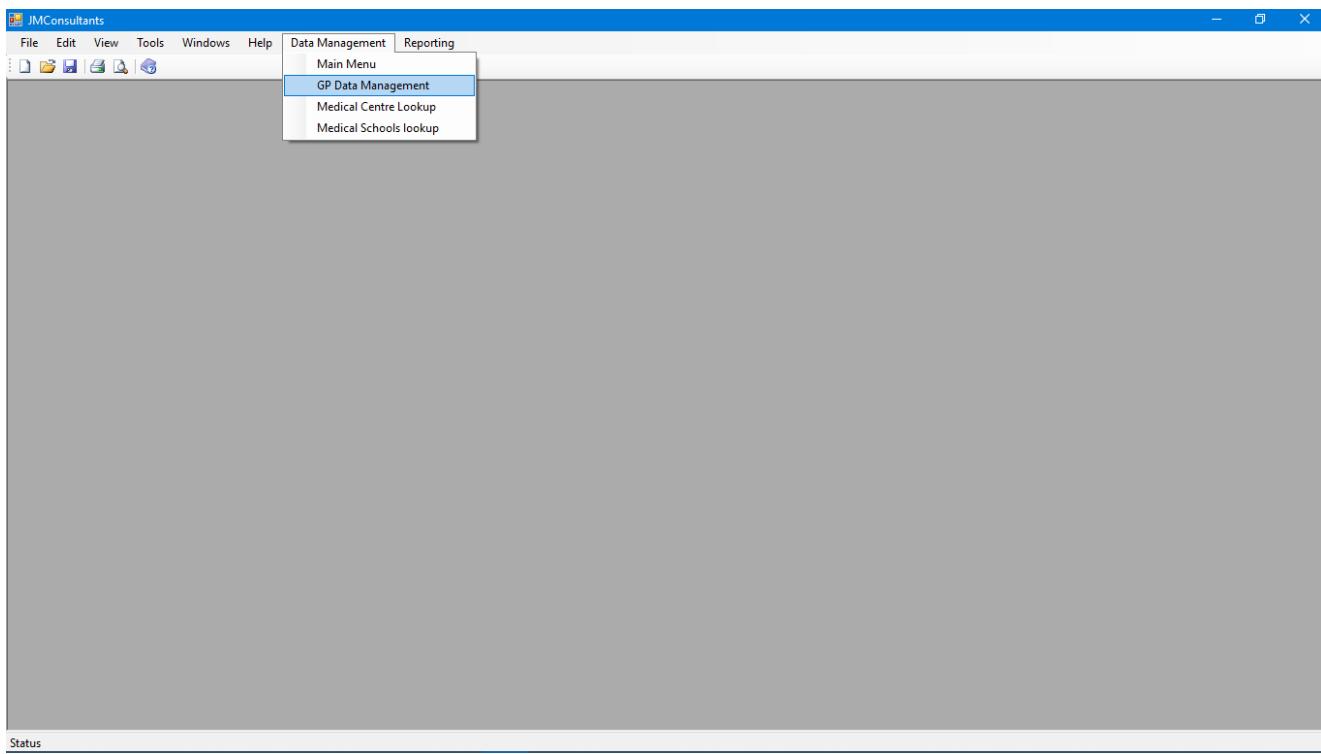
Clicking on Main Menu in the Data Management drop down list reveals the Main Menu Form.



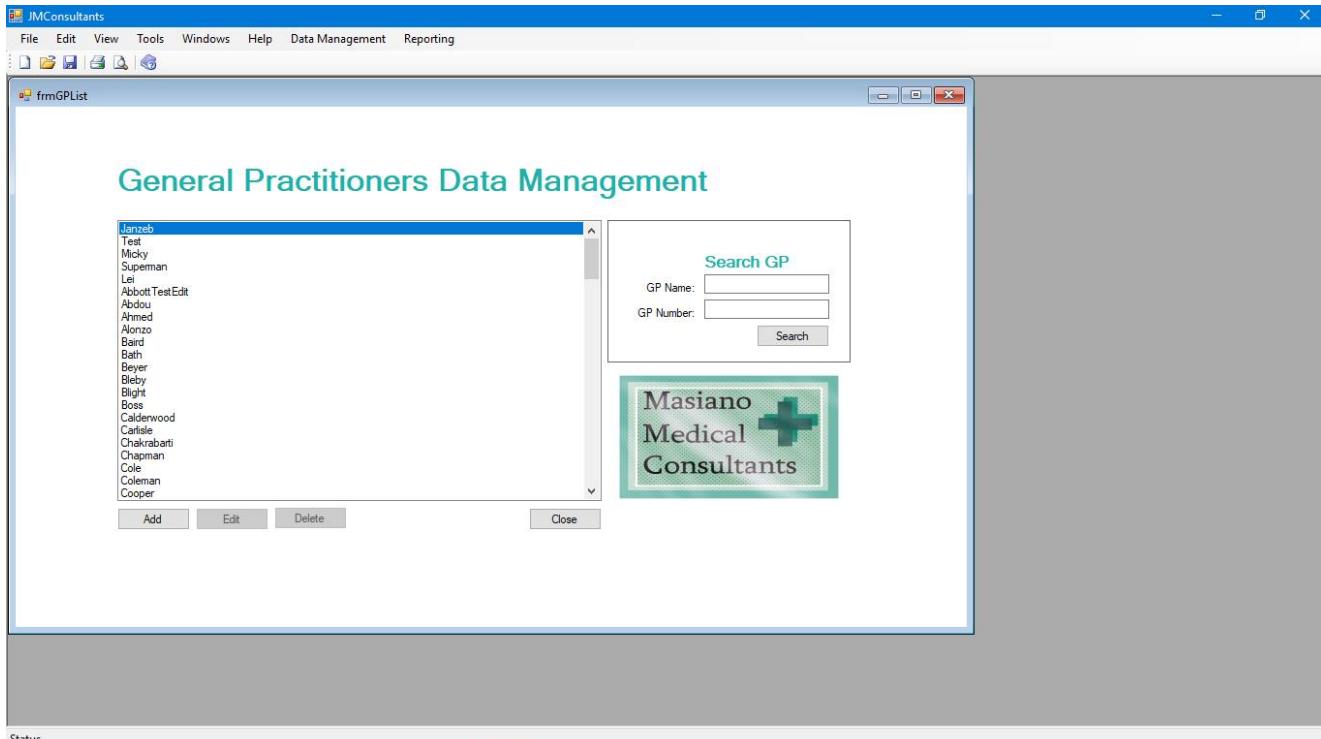
The labels on the buttons on the Main Menu indicate the form that will be launched if the buttons are clicked.

The General Practitioners Data Management Form (F3)

To select GP Data Management from the MDI forms Data Management list, click on GP Data Management in the list



This form has the following features: a list to select a GP from. Add, Edit and Delete, and a Search to filter by GP Name or by GP Number.

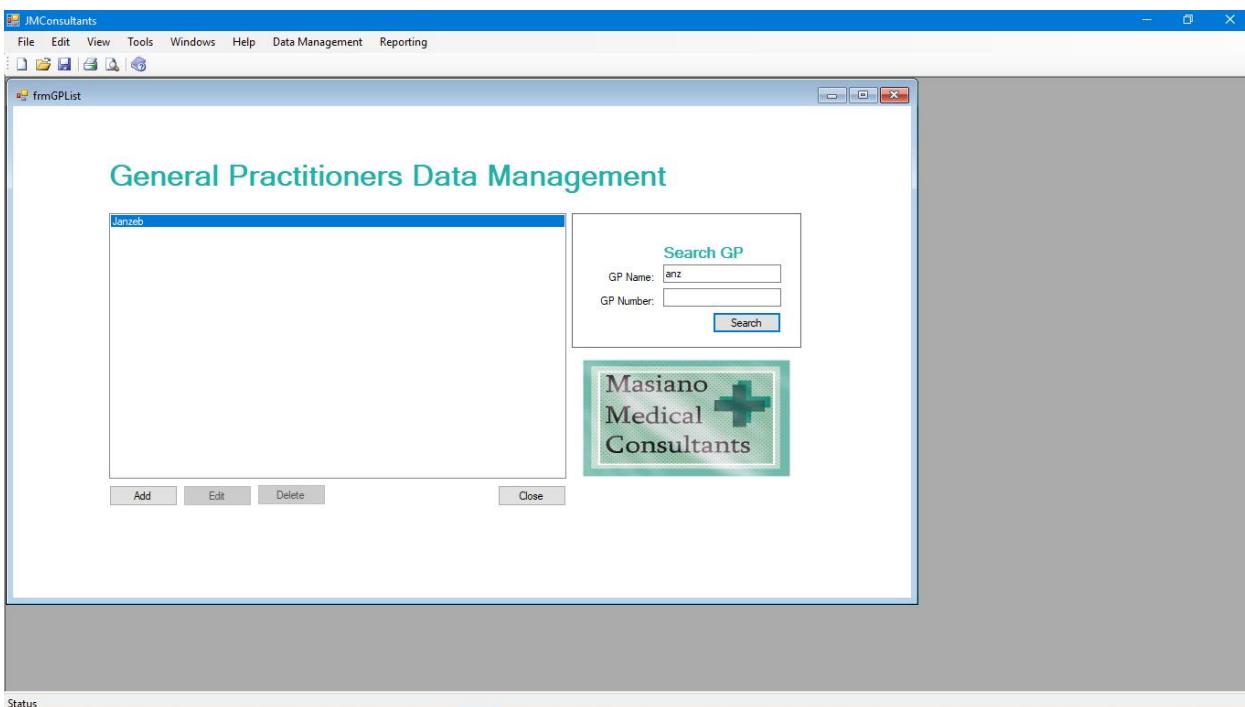


The list of names you are presented with is the list of GPs you can select from. You can locate a GP by using the scroll bar.

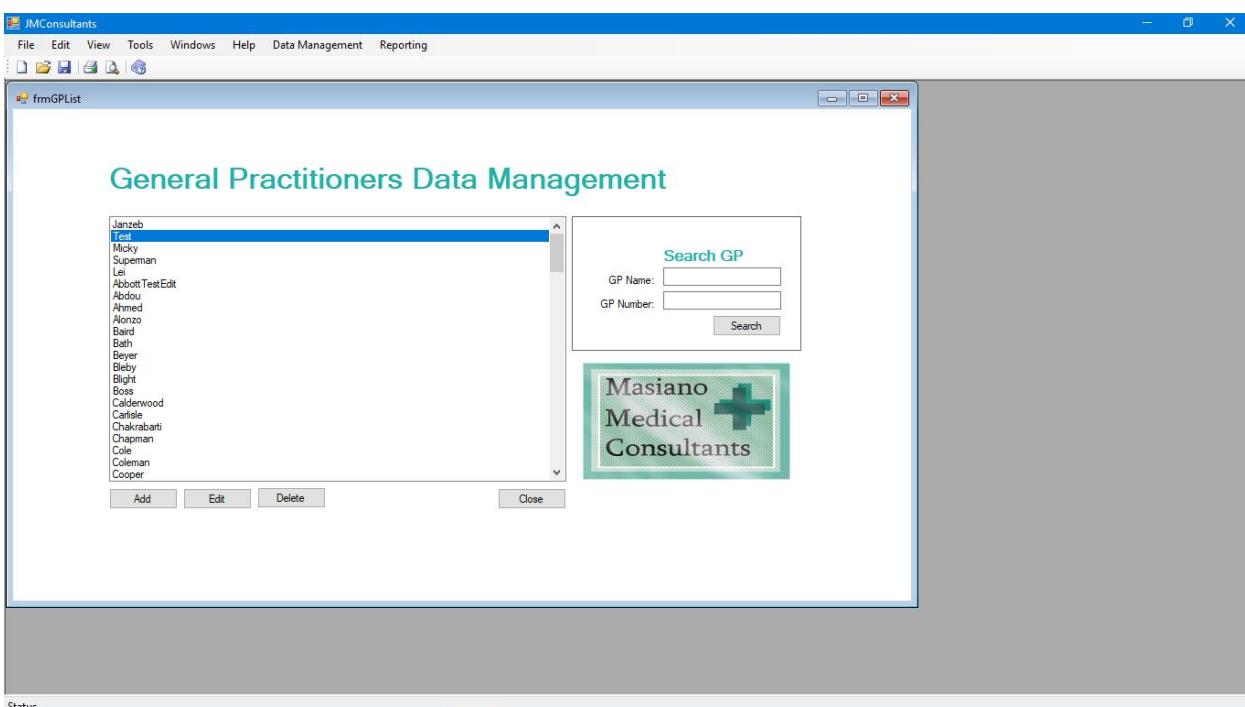
GP Search By Name or GP Number

Optionally you can search the list using the GP number of the GP or the name of the GP. The search criteria provided in the GP Name text box can be a part of the name and the search will locate names where a part of the name matches the search criteria provided.

In this example “anz” was entered in to the GP Name search box and then the search button was clicked. The result is given below. The search result was Janzeb.



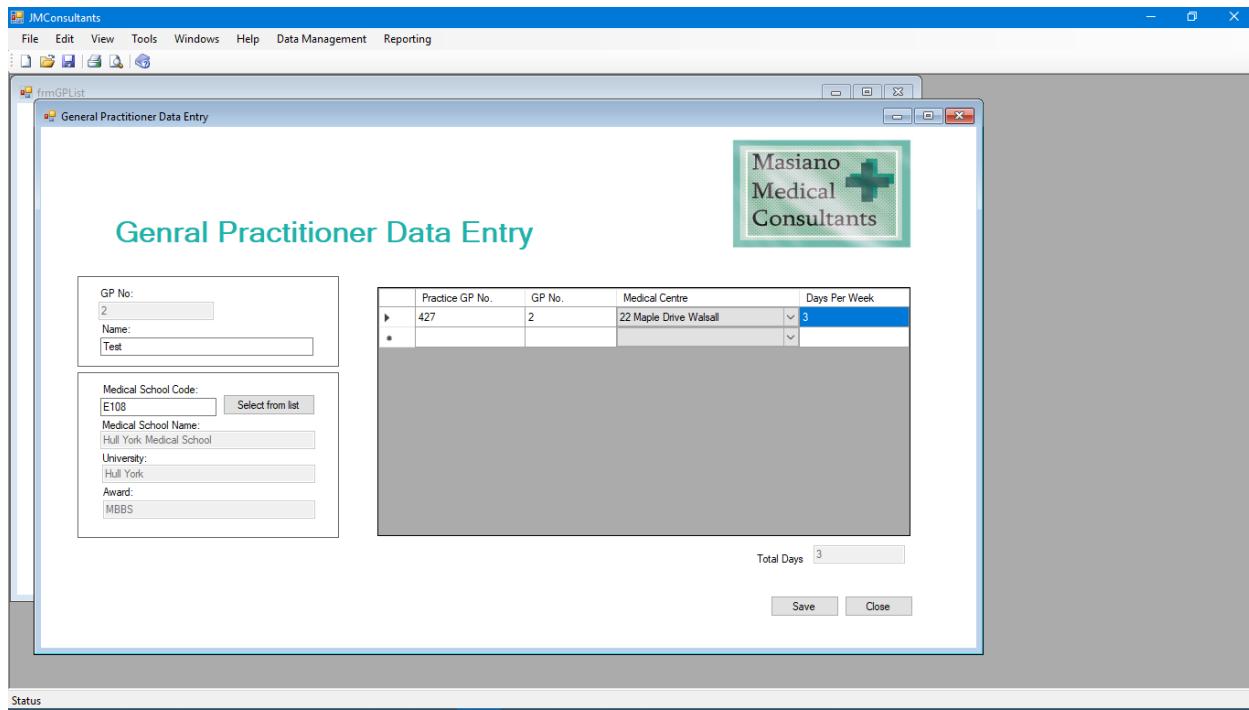
By clearing the search box and clicking search again, the full list of names will be displayed. The Edit and Delete buttons are normally greyed out (inactive) by clicking on a name in the list they become active and are no longer greyed out. This gives the option of editing or deleting the GP data by clicking the Edit or Delete button.



Editing GP Data

Clicking Edit loads the General Practitioner Data Entry Form (F1) pre-loaded with the GP data, ready to edit.

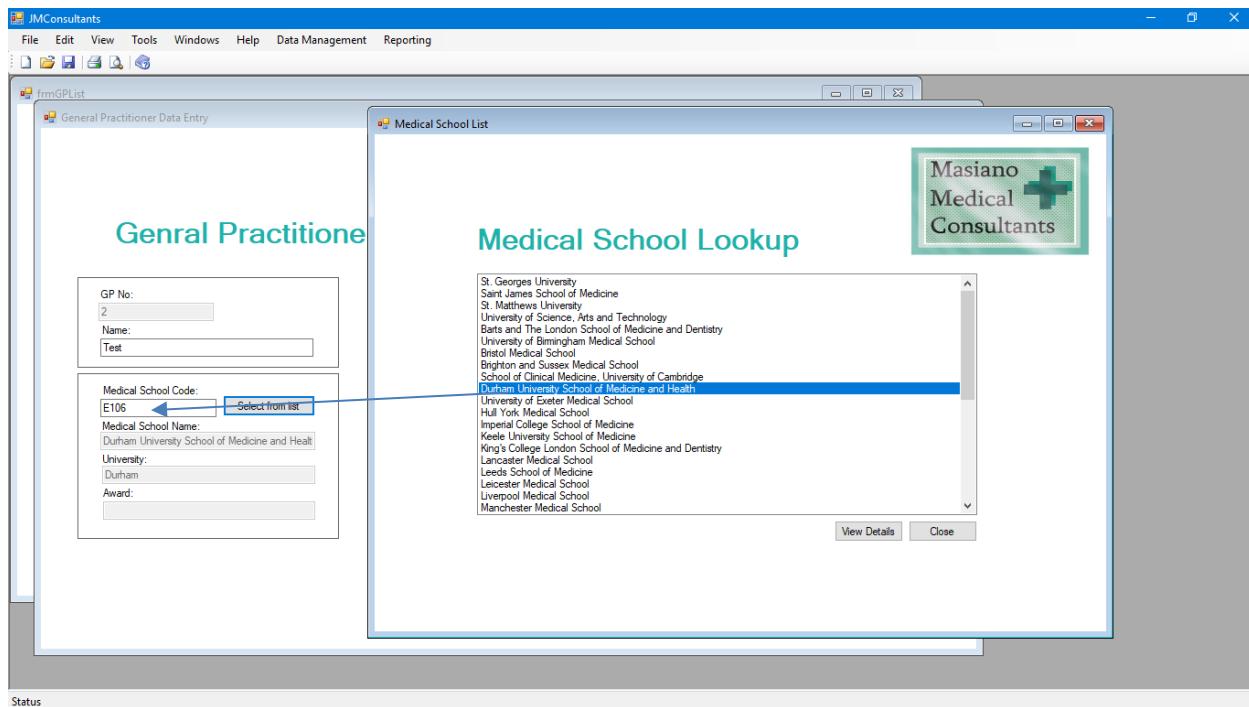
General Practitioner Data Entry Form (F1) (Editing GP Information)



The form is set up to edit information. The greyed out text box fields on the left are not available for editing. The GP Number is auto generated and is a unique identifier for each GP, so does not need editing. The Medical School Information is linked to the Medical School Code and stored in a separate database, so is not part of the GP data editing process. The information that can be edited includes the Name, Medical School Code, Medical Centre and Days per week. After editing the information, clicking the save button will save the information, and the close button will close the form. The form can be navigated using the tab key, in this order: Name, Select from list button, Medical School Code, the data grid view, the save button then close button. Each sub form field can be navigated using the arrow keys.

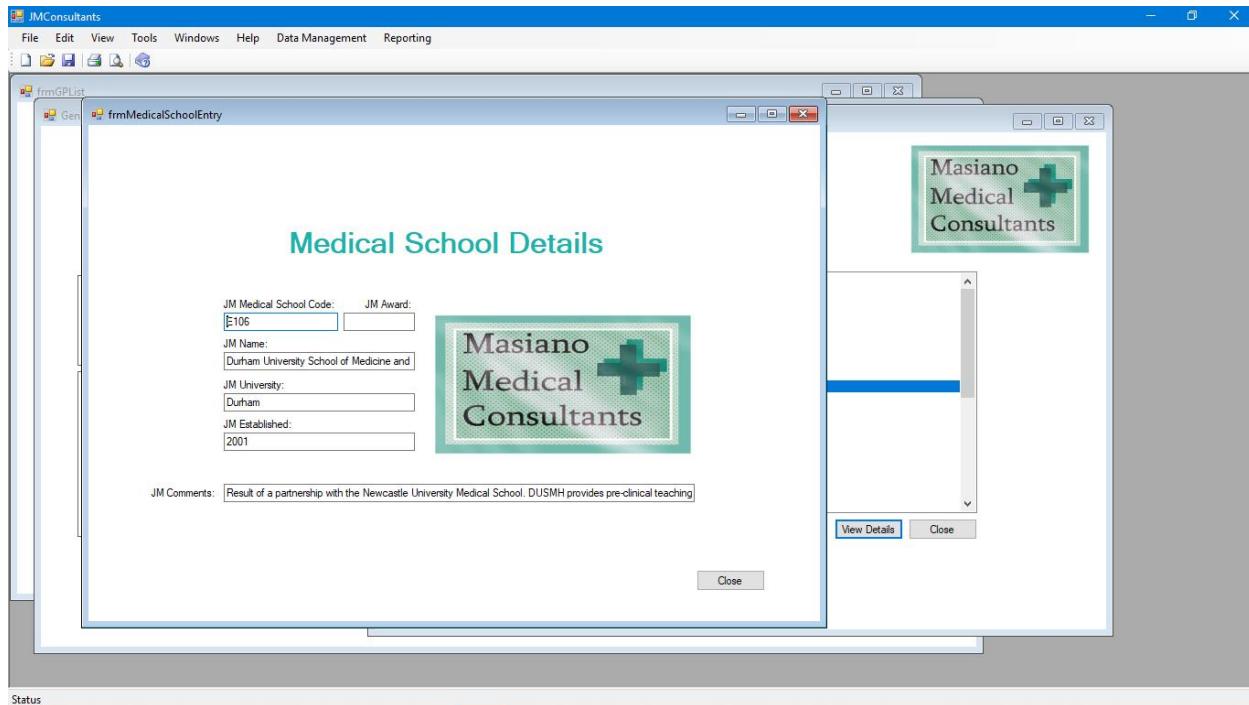
Medical School Lookup Form (F6)

Clicking the Select from list button will allow you to select a Medical School from the Medical School Lookup List and auto update the Medical School Code and details.



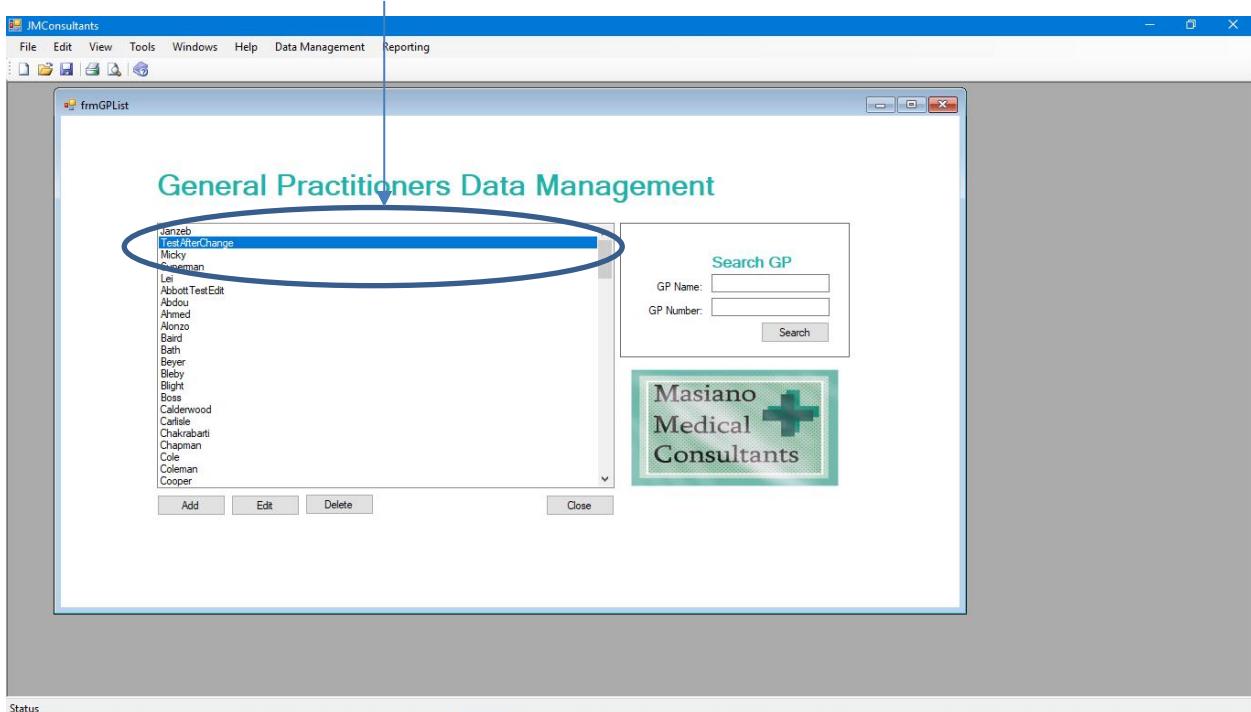
Medical School Details Form (F7)

Although sufficient Medical School details are provided, additionally Clicking View Details will present you with a screen for the Medical School Details Form. This will enable you to confirm the details of the School and check some additional information about the School. Clicking the close button will close this form and return you to the GP Data Entry Form.



Automatically Updating The General Practitioners Data Management Form (F3)

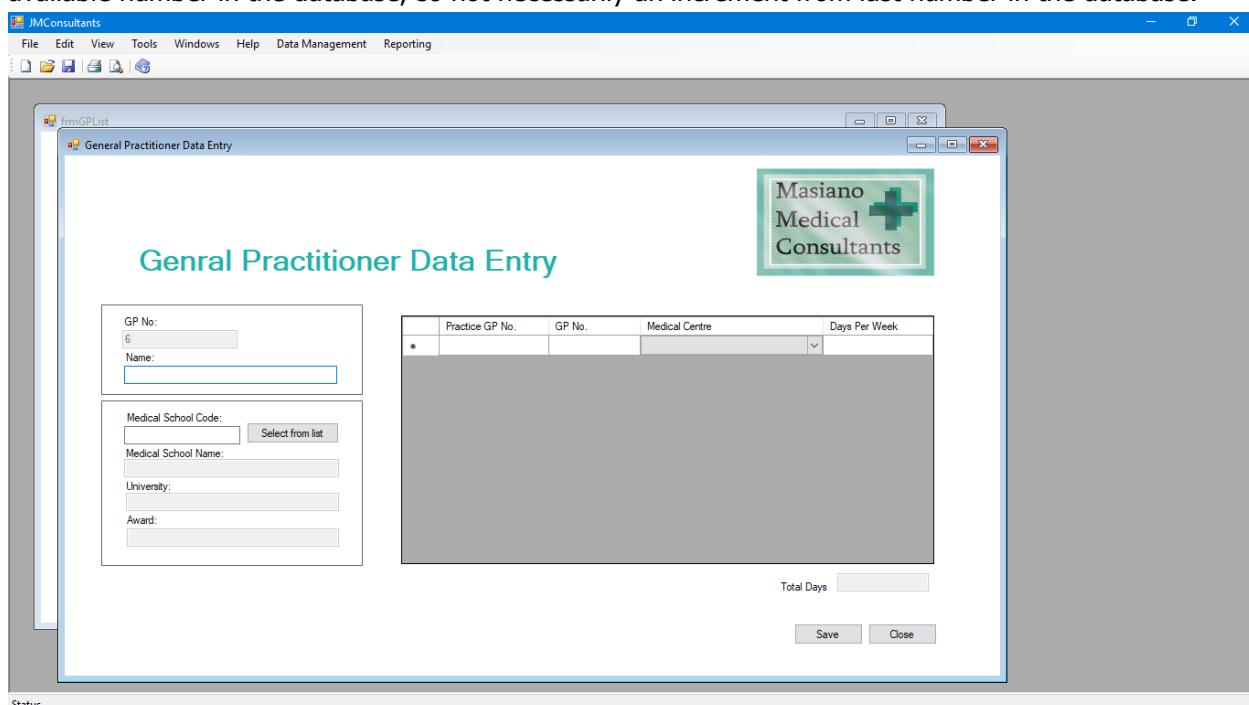
Editing the details using the General Practitioner Data Entry Form (F1) and clicking save will save the changes to the database. The General Practitioners Data Management Form (F3) is automatically updated and refreshed when control is passed back to it (i.e. when the form is selected again) or closing General Practitioner Data Entry Form (F1). In the above example earlier the Name "Test" was changed to "TestAfterChange" and the changes after saving are clearly displayed in the General Practitioners Data Management Forms (F3) List.



General Practitioner Data Entry Form (F1) (Adding a new GP)

Auto-generated GP Number

The General Practitioners Data Management Form (F3) can be used to add a new entry by clicking on the Add button to add a new entry. This time we are presented with a blank form. With an auto-generated GP number (this is an available number in the database, so not necessarily an increment from last number in the database).

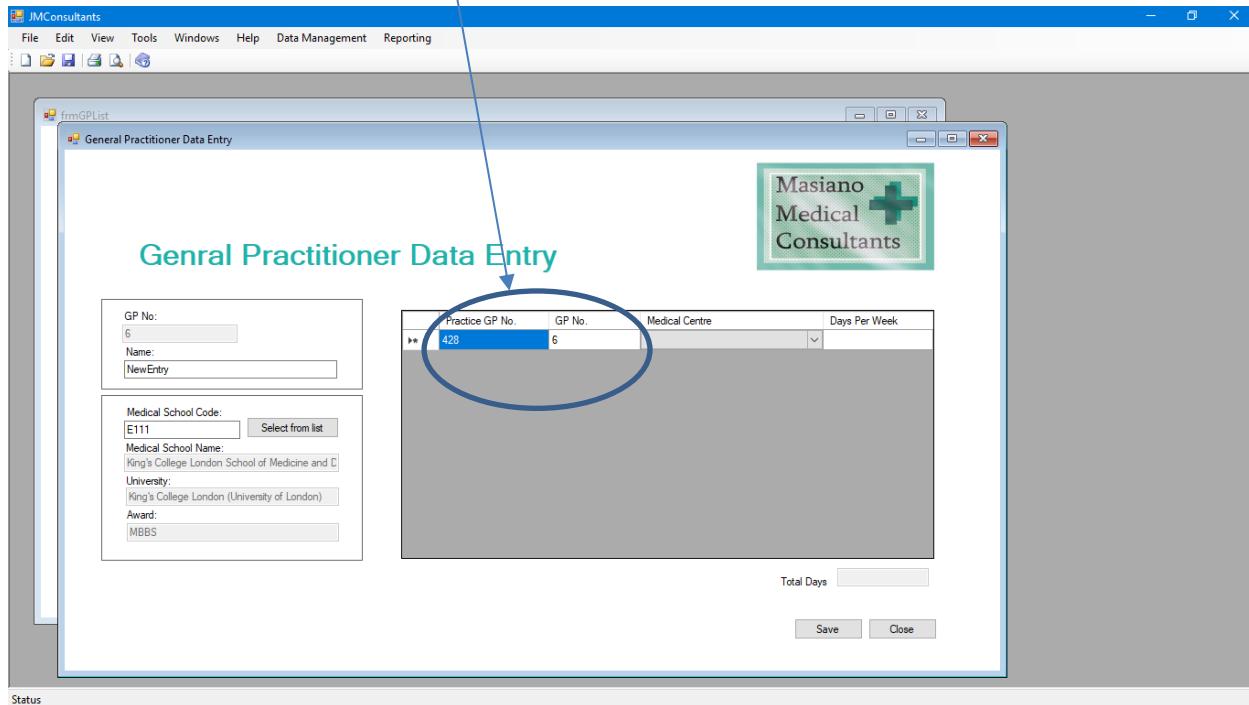


In this case the available GP number in the database was 6. The GPNo box has been greyed out as this is auto-generated and no need enter a value manually.

Auto-copy of GP Number and auto-generated Practice GP Number in Data Grid View

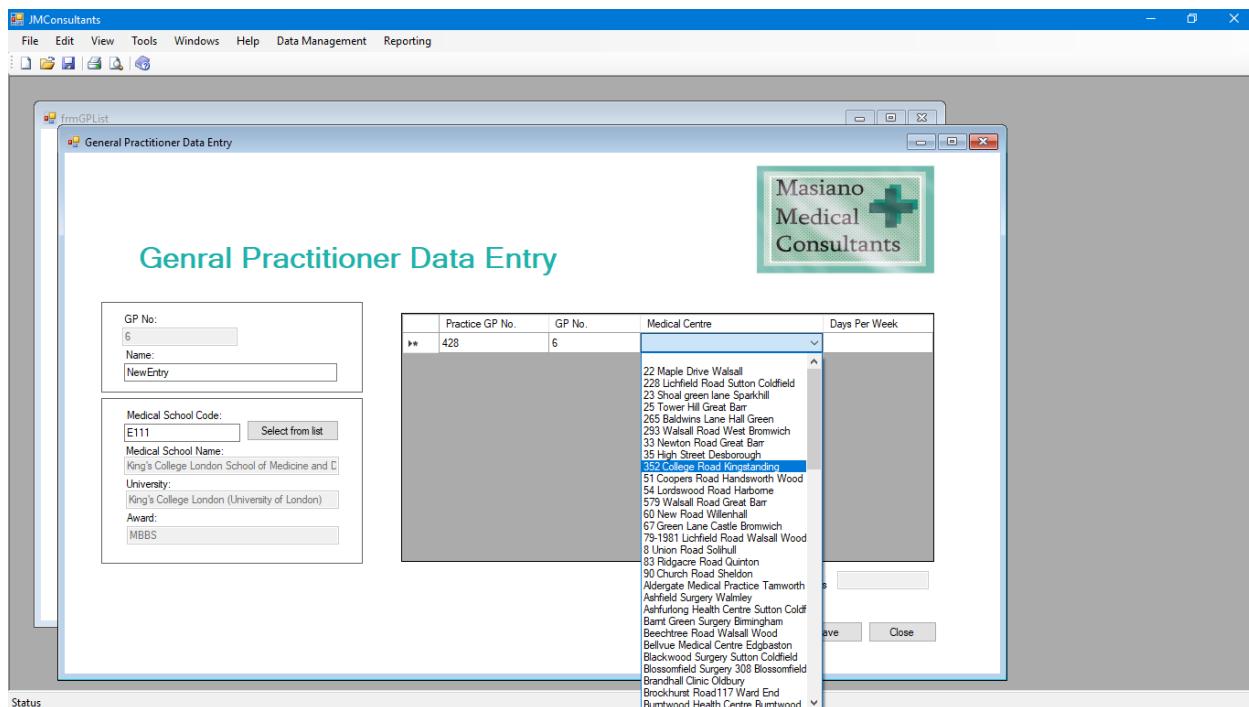
We can populate the form as follows:

Clicking the table entry field in the sub form will automatically generate the Practice GP No and copy the GP No from the textbox:



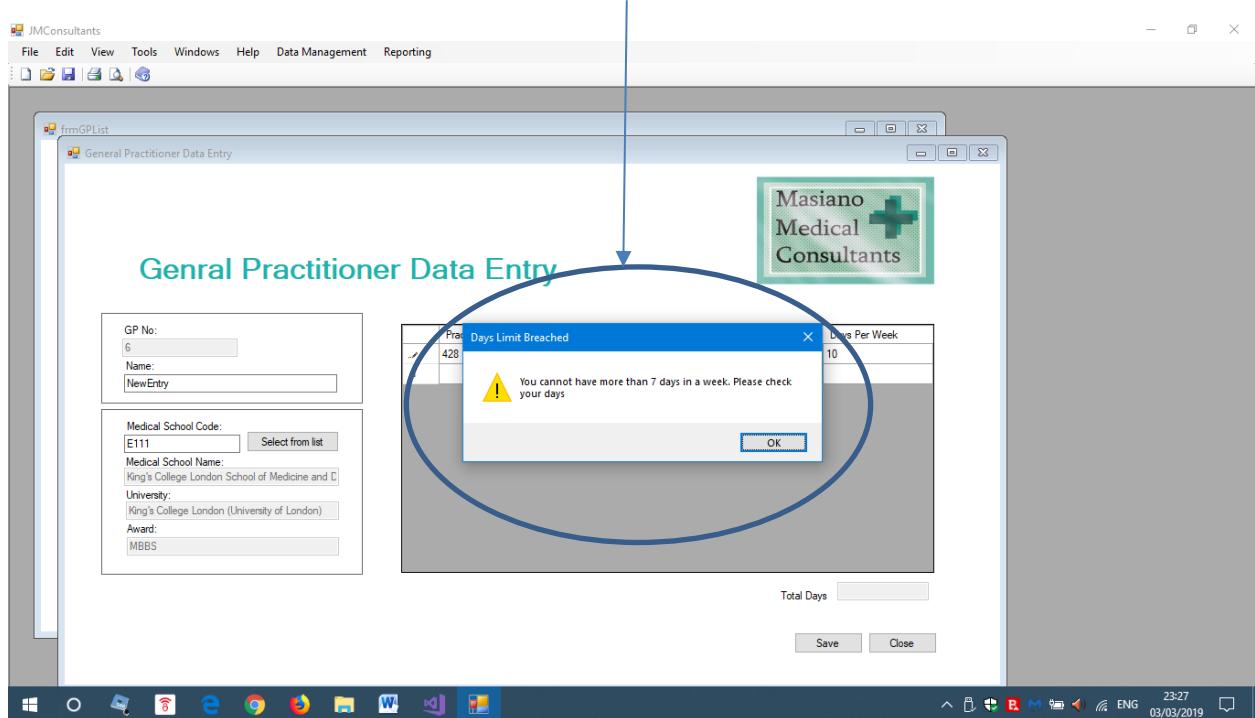
Data Grid View Medical Centre Drop Down List

Next we can select the Medical School from the drop down list

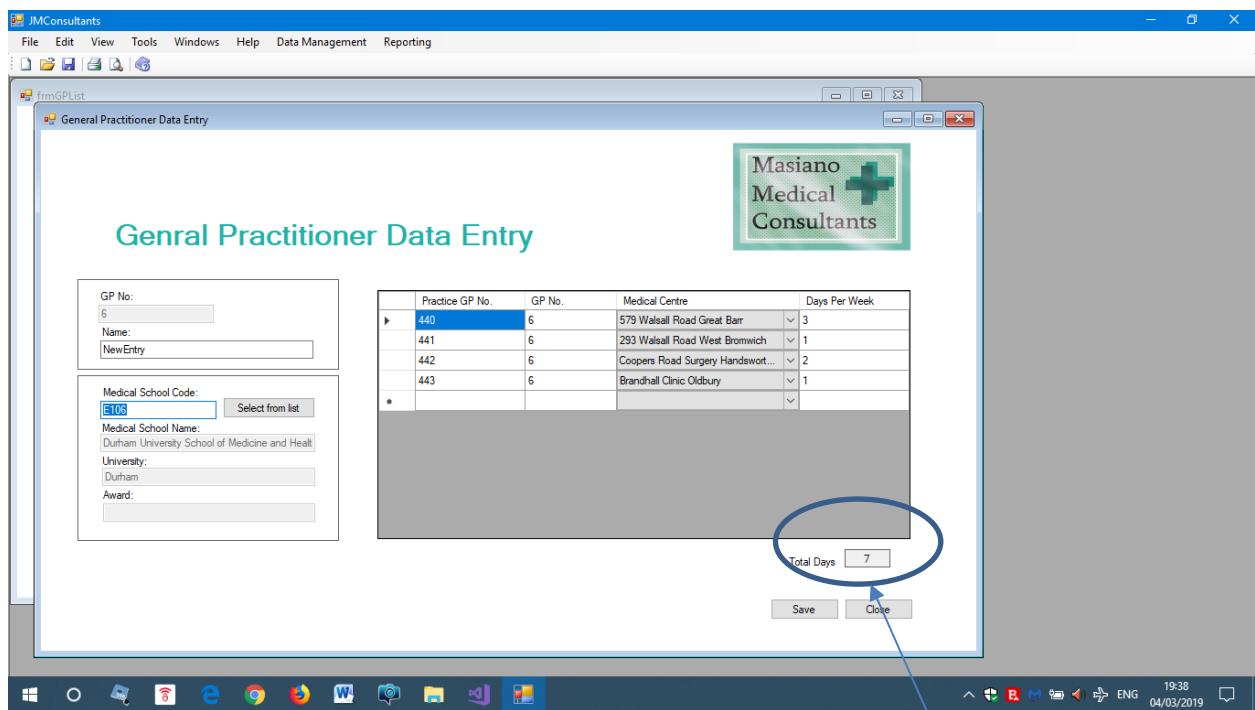


Automatic Error Control for Total Days Calculated

The days per week for the GP to spend at the practice are manually typed in. Note, since there are only 7 days in a week, a GP cannot physically exceed the 7 day limit. If there is an error in entering the number of days so that the total is greater than 7 a message box will show alerting the user that the 7 day limit has been breached and message box will display a notification message " You have breached the 7 day week limit. Please check your days".



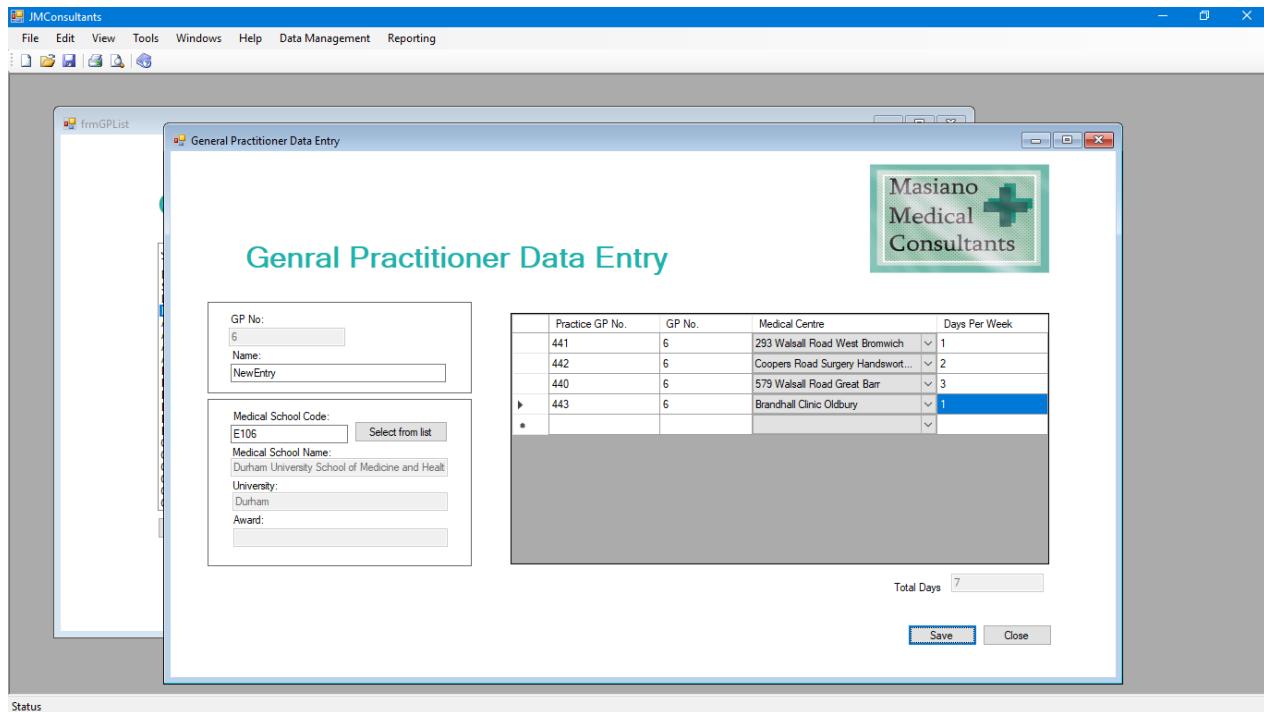
Automatic Calculation and Display of Total Days Refreshed by Mouse Pointer



The total number of days are automatically calculated and presented in the box when the data is being inputted and saved. The box may appear empty if the form is loaded to edit information. If this happens then hovering the mouse pointed over the Total Days box will refresh the box.

Adding Rows and Saving Data

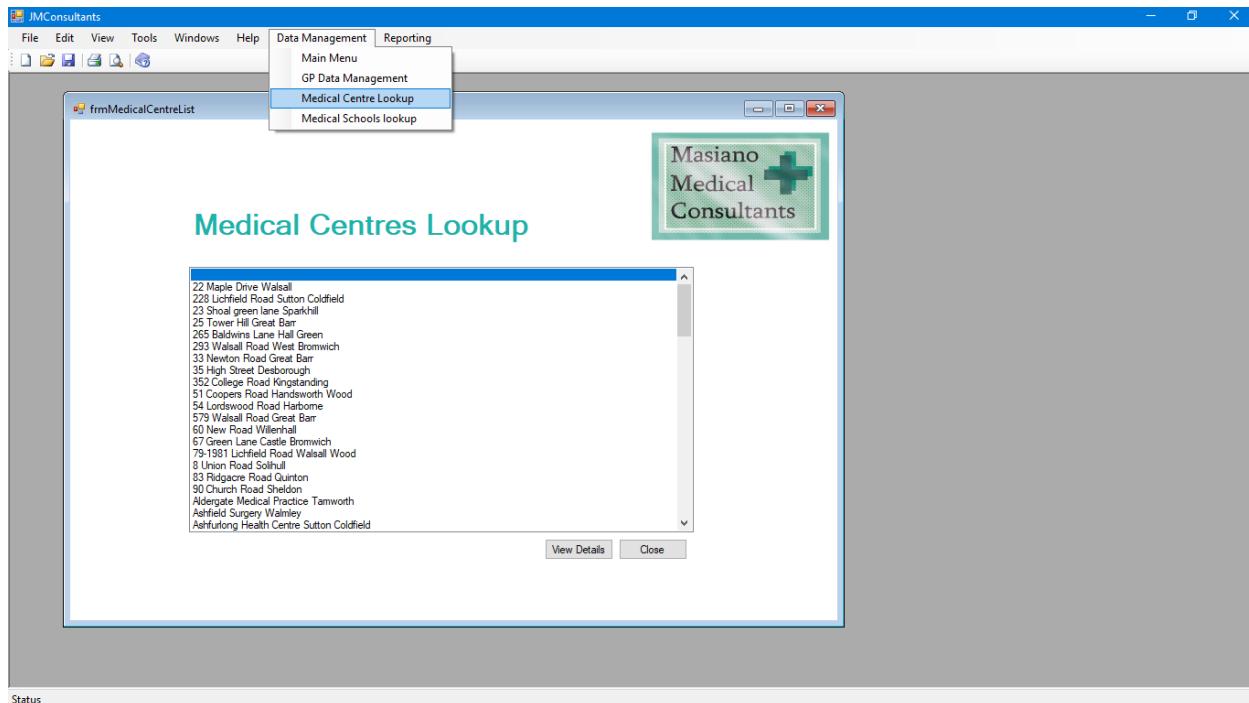
We can add multiple rows of data to the sub form as long as the total for days does not exceed 7.



Clicking save will save the data to the database and close will close the form.

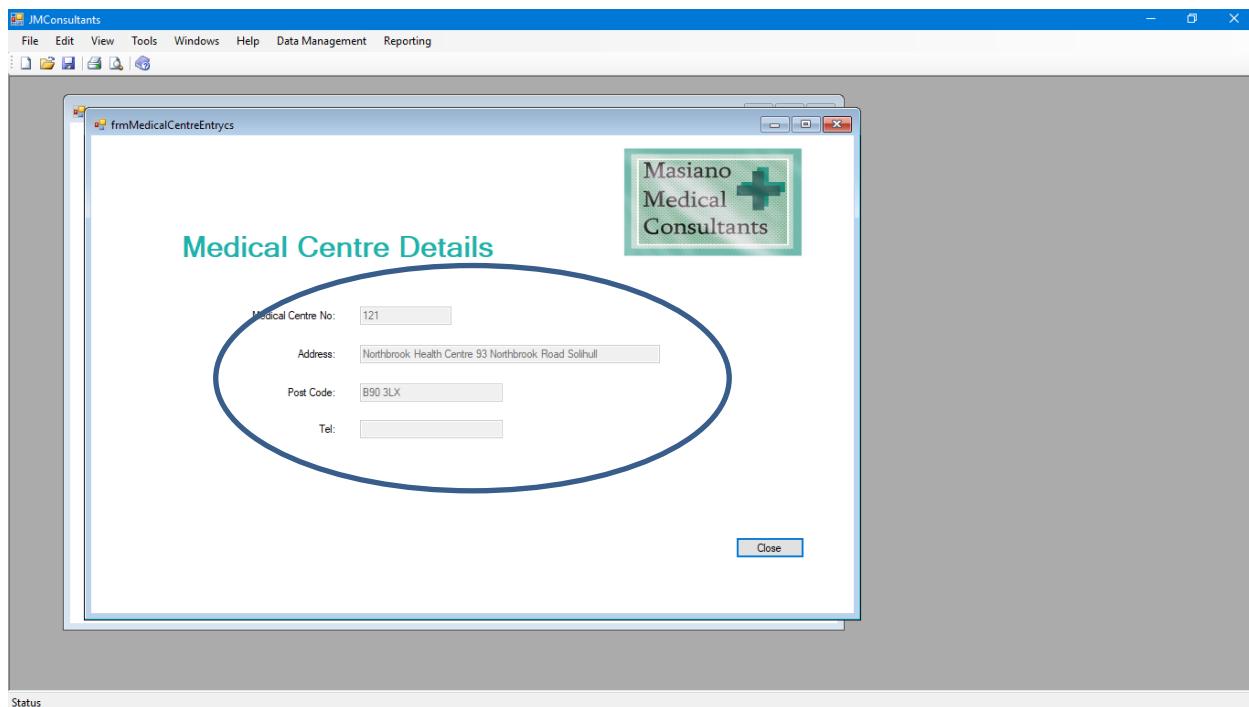
Medical Centre Form (F8)

In addition to the dropdown list there is a supplementary Medical Centre Form, which can be accessed via Data Management from the menu of the Main Access Form/MDI Form (F2). This Medical Centre Form can be used to check the details of the Medical Centre before making a selection.



Medical Centre Details Form (F9)

By clicking a Medical Centre in the list the details button can then be used to check details such as postcode or telephone number for the specified medical Centre in the Medical Centre Details Form (F9).



Part 3

This is the SQL (stored procedure) used to fetch the data from the database for the Consultants Appointments Report (R1).

The screenshot shows a Microsoft SQL Server Management Studio (SSMS) interface. The title bar includes 'File', 'Edit', 'View', 'Project', 'Build', 'Debug', 'Team', 'SQL', 'Tools', 'Test', 'R Tools', 'Analyze', 'Window', 'Help', 'Full Screen' (which is selected), and 'Quick Launch (Ctrl+Q)'. The status bar on the right shows 'Janzeb Masiano' and a profile icon.

The main area displays the script for a stored procedure:

```
1 CREATE PROCEDURE [dbo].[sproc_ConsultantsAppointmentDates]
2 /*
3 To display information for a list of appointments allocated to consultants within
4 particular time period set by @StartDate and @EndDate as the period.
5 This procedure will require joining the Specialty, Consultant, Appointment and Hospital tables.
6 The information displayed will include
7 Consultant details: ConsultantNo, Title, FirstName, LastName,
8 Speciality details: ShortCode(Speciality), LongDescription(Speciality),
9 Patient details: Patient ID, FirstName, LastName
10 Appointment:AppointmentNo, AppointmentDate, Procedure, Cost
11 Location: HospitalNo, HospitalName, PostCode
12 */
13     @StartDate date,
14     @EndDate date
15 AS
16 SELECT
17 /*Consultant details: ConsultantNo, Title, FirstName, LastName, */
18 P2430705_tblConsultant.JM_ConsultantNo,
19 P2430705_tblTitle.JM_TitleDescription,
20 P2430705_tblConsultant.JM_FirstName,
21 P2430705_tblConsultant.JM_LastName,
22
23 /*Speciality details: ShortCode(Speciality), LongDescription(Speciality), */
24 P2430705_tblSpeciality.JM_ShortCode,
25 P2430705_tblSpeciality.JM_LongDescription,
26
27 /*Patient details: Patient ID, FirstName, LastName*/
28 P2430705_tblPatient.JM_PatientID,
29 P2430705_tblPatient.JM_FirstName,
30 P2430705_tblPatient.JM_LastName,
31
32 /*Appointment:AppointmentNo, AppointmentDate, Procedure, Cost */
33 P2430705_tblAppointment.JM_AppointmentNo,
34 P2430705_tblAppointment.JM_AppointmentDate,
35 P2430705_tblAppointment.JM_Procedure,
36 P2430705_tblAppointment.JM_Cost,
37
```

Continued on next page...

```
38 /*Location: HospitalNo, HospitalName,PostCode*/
39 P2430705_tblHospital.JM_HospitalNo,
40 P2430705_tblHospital.JM_HospitalName,
41 P2430705_tblHospital.JM_Address
42
43 FROM
44 /*the tables to be used */
45 P2430705_tblTitle,
46 P2430705_tblConsultant,
47 P2430705_tblSpeciality,
48 P2430705_tblPatient,
49 P2430705_tblAppointment,
50 P2430705_tblHospital
51
52 WHERE
53 /*table joining consultant to title*/
54 P2430705_tblConsultant.JM_TitleNo = P2430705_tblTitle.JM_TitleNo
55 AND
56 /*table joining speciality to consultant*/
57 P2430705_tblSpeciality.JM_SpecialityNo = P2430705_tblConsultant.JM_SpecialityNo
58 AND
59 /*table joining consultant to appointment*/
60 P2430705_tblConsultant.JM_ConsultantNo = P2430705_tblAppointment.JM_ConsultantNo
61 AND
62 /*table joining appointment to hospital*/
63 P2430705_tblAppointment.JM_HospitalNo = P2430705_tblHospital.JM_HospitalNo
64 AND
65 /*table joining patient to appointment*/
66 P2430705_tblPatient.JM_PatientID = P2430705_tblAppointment.JM_PatientID
67 AND
68 /*will display all those after start date inclusive*/
69 P2430705_tblAppointment.JM_AppointmentDate >= @StartDate
70 AND
71 /*and before end date inclusive*/
72 P2430705_tblAppointment.JM_AppointmentDate <= @EndDate;
73 RETURN 0
```

92 % ▾ Connection Ready | (LocalDB)\MSSQLLocalDB | DESKTOP-64U0JD6\Zeb | C:\USERS\ZEB\DESKTOP\... | 00:00:00 | 0 rows

□ Ready Ln 15 Col 3 Ch 3 INS ↑ Add to Source Control ▾

Testing Consultants Appointments Report Stored Procedure using Start and End Date Parameters:

When executed the requested input @StartDate parameter was set to '1997-03-01' and the input @EndDate parameter was set to '1997-03-31'. This gave the following result:

The screenshot shows the SSMS interface with a T-SQL query window titled "SQLQuery2.sql". The code executes a stored procedure "sproc_ConsultantsAppointmentDates" with parameters @StartDate ('1997-03-01') and @EndDate ('1997-03-31'). The results are displayed in a grid with 77 rows, showing appointment details for various consultants. A "Return Value" row at the bottom shows a value of 0.

JM_ConsultantNo	JM_TitleDescription	JM_FirstName	JM_LastName	JM_ShortCode	JM_LongDescription	JM_PatientID	JM_FirstName	JM_LastName	JM_AppointmentNo	JM_AppointmentDate	JM_Procedure	JM_Rate	
62	37	Mr	H	Marks	OR	Orthopaedics	260	Simon	Knowles	2609	1997-03-10	Review consultation	40
63	37	Mr	H	Marks	OR	Orthopaedics	261	Brian	Barratt	2611	1997-03-07	Post-operative review	50
64	37	Mr	H	Marks	OR	Orthopaedics	261	Brian	Barratt	2612	1997-03-14	Review consultation	40
65	37	Mr	H	Marks	OR	Orthopaedics	262	Robert	Meredith	2613	1997-03-17	Initial consultation	60
66	37	Mr	H	Marks	OR	Orthopaedics	109	William	Asghar	2616	1997-03-07	Athroscopy left knee.W8500.Medial me...	54
67	37	Mr	H	Marks	OR	Orthopaedics	109	William	Asghar	2617	1997-03-14	Post-operative review	40
68	37	Mr	H	Marks	OR	Orthopaedics	109	William	Asghar	2618	1997-03-21	Review consultation	50
69	37	Mr	H	Marks	OR	Orthopaedics	263	Martin	Harding	2621	1997-03-07	Review consultation	50
70	37	Mr	H	Marks	OR	Orthopaedics	265	Dennis	Smithson	2629	1997-03-17	Initial consultation	60
71	37	Mr	H	Marks	OR	Orthopaedics	278	Christine	Davies	2653	1997-03-14	Review consultation	40
72	37	Mr	H	Marks	OR	Orthopaedics	279	Paul	Gill	2655	1997-03-07	Review consultation	40
73	37	Mr	H	Marks	OR	Orthopaedics	94	Paul	Whately	2657	1997-03-07	Review consultation	50
74	37	Mr	H	Marks	OR	Orthopaedics	55	Geoffrey	Potter	2730	1997-03-07	Review consultation	40
75	37	Mr	H	Marks	OR	Orthopaedics	55	Geoffrey	Potter	2731	1997-03-14	Review consultation	40
76	37	Mr	H	Marks	OR	Orthopaedics	55	Geoffrey	Potter	2732	1997-03-24	Review consultation	40

Return Value
1 0

Query executed successfully at 17:41:26 | (LocalDB)\MSSQLLocalDB (13... | DESKTOP-64U0JD6.Zeb (54) | C:\USERS\ZEB\DESKTOP\J... | 00:00:00 | 77 rows

Ready Add to Source Control

Horizontal scroll bar is to the left to view the columns on the left hand side. Continued next page...

File Edit View Project Build Debug Team Tools Test R Tools Analyze Window Help Quick Launch (Ctrl+Q) Janzeb Masiano JM

SQLQuery2.sql *

C:\USERS\ZEB\Desktop\JMCONSULTANTS\MASIANOJANZEBCONSULTANTS.MDF

```
1 USE [C:\USERS\ZEB\Desktop\JMCONSULTANTS\MASIANOJANZEBCONSULTANTS.MDF]
2 GO
3
4 DECLARE @return_value Int
5
6 EXEC   @return_value = [dbo].[sproc_ConsultantsAppointmentDates]
7     @StartDate = '1997-03-01',
8     @EndDate = '1997-03-31'
9
10 SELECT  @return_value as 'Return Value'
11
12 GO
```

92 %

T-SQL Results Message

A_ShortCode	JM_LongDescription	JM_PatientID	JM_FirstName	JM_LastName	JM_AppointmentNo	JM_AppointmentDate	JM_Procedure	JM_Cost	JM_HospitalNo	JM_HospitalName	JM_Address	
61	R	Orthopaedics	59	David	Watts	2607	1997-03-19	Review consultation	40.00	20	Gateway Leicester Hospital	Gateway Street Drive
62	R	Orthopaedics	260	Simon	Knowles	2609	1997-03-10	Review consultation	40.00	20	Gateway Leicester Hospital	Gateway Street Drive
63	R	Orthopaedics	261	Brian	Barratt	2611	1997-03-07	Post-operative review	50.00	20	Gateway Leicester Hospital	Gateway Street Drive
64	R	Orthopaedics	261	Brian	Barratt	2612	1997-03-14	Review consultation	40.00	20	Gateway Leicester Hospital	Gateway Street Drive
65	R	Orthopaedics	262	Robert	Meredith	2613	1997-03-17	Initial consultation	60.00	20	Gateway Leicester Hospital	Gateway Street Drive
66	R	Orthopaedics	109	William	Asghar	2616	1997-03-07	Arthroscopy left knee.W8500.Medial me...	548.00	20	Gateway Leicester Hospital	Gateway Street Drive
67	R	Orthopaedics	109	William	Asghar	2617	1997-03-14	Post-operative review	40.00	20	Gateway Leicester Hospital	Gateway Street Drive
68	R	Orthopaedics	109	William	Asghar	2618	1997-03-21	Review consultation	50.00	20	Gateway Leicester Hospital	Gateway Street Drive
69	R	Orthopaedics	263	Martin	Harding	2621	1997-03-07	Review consultation	50.00	20	Gateway Leicester Hospital	Gateway Street Drive
70	R	Orthopaedics	265	Dennis	Smithson	2629	1997-03-17	Initial consultation	60.00	20	Gateway Leicester Hospital	Gateway Street Drive
71	R	Orthopaedics	278	Christine	Davies	2653	1997-03-14	Review consultation	40.00	20	Gateway Leicester Hospital	Gateway Street Drive
72	R	Orthopaedics	279	Paul	Gill	2655	1997-03-07	Review consultation	40.00	20	Gateway Leicester Hospital	Gateway Street Drive
73	R	Orthopaedics	94	Paul	Whately	2657	1997-03-07	Review consultation	50.00	20	Gateway Leicester Hospital	Gateway Street Drive
74	R	Orthopaedics	55	Geoffrey	Potter	2730	1997-03-07	Review consultation	40.00	20	Gateway Leicester Hospital	Gateway Street Drive
75	R	Orthopaedics	55	Geoffrey	Potter	2731	1997-03-14	Review consultation	40.00	20	Gateway Leicester Hospital	Gateway Street Drive
76	R	Orthopaedics	55	Geoffrey	Potter	2732	1997-03-24	Review consultation	40.00	20	Gateway Leicester Hospital	Gateway Street Drive

Return Value
1 0

Query executed successfully at 17:41:26 | (LocalDB)\MSSQLLocalDB (13.... | DESKTOP-64U0JD6\Zeb (54) | C:\USERS\ZEB\Desktop\J... | 00:00:00 | 77 rows

Ready

Horizontal scroll bar is to the right to view the columns on the right hand side.

In total there were 76 rows in the result.

Section 4 This section provides the Screen shots and explanations for the rptConsultantsAppointmentDates.rdlc

The Consultant Appointments Report (R1)

The screenshot shows the Microsoft Visual Studio interface with the project "JMConsultantsDB" open. The report "rptConsultantsAppointmentDates.rdlc" is currently selected. The report design includes:

- A header section with a logo for "Masiano Medical Consultants".
- A table for "Consultant Number: [JM_ConsultantNo], [JM_TitleDescription] [JM_FirstName] [JM_LastName]".
- A chart titled "Sum of Cost of Appointments Against Time" showing a line graph of appointment costs over time.
- A message box stating "No appointments to display for the chosen date range".
- A footer with the page number "Page [PageNumber] of [TotalPages]".

Note: The header here contains information for the consultant. It contains extra information that's hidden until the box is clicked on. This was taken from the data source

Consultant Number: [JM_ConsultantNo], [JM_TitleDescription] [JM_FirstName] [JM_LastName]

Appointment Procedure Cost

Note: The appointment field contains all the information for the appointment. This was taken from the datasource sproc_ConsultantsAppointmentDates. This information is not visible until the Appointment cell is clicked on. (see below)

Consultant Number: [JM_ConsultantN]

[JM_LongDescription]([JM_ShortCode])

Appointment

Appointment No: [JM_AppointmentNo]
Appointment Date: «Expr»
Patient ID: [JM_PatientID]
Patient Name: [JM_FirstName1] [JM_LastName1]
Hospital Number: [JM_HospitalNo]
Hospital: [JM_HospitalName], [JM_Address]

NOTE: Both the chart and the Table have visibility set up so that they will only be displayed when there is data available within the start and end date range. If the report is loaded and no data is present, then they will not be displayed. Also the Message "No appointments to display for the chosen date range" will be displayed if there is no data to display.

Features of the Consultant Appointments Report (R1)

Header Date and Time

A header in the report file containing place holders for Date and Time worked by using a value of current date and time in the DateTime format passed to it from the frmConsultantAppointmentsReport.cs using a parameter in the form called CurrentDateTime, I used the available code to convert the DateTime variable passed in into its constituent parts to display as a date and time.

The following function was used to convert the DateTime parameter value in to the current date to be displayed:

```
=FormatDateTime(Parameters!rptCurrentDateTime.Value,DateFormat.LongDate)
```

The following function was used to convert the DateTime parameter value in to the current time to be displayed:

```
=FormatDateTime(Parameters!rptCurrentDateTime.Value,DateFormat.ShortTime)
```

Similarly the start and end date place holders were passed DateTime parameter values from the frmConsultantAppointmentsReport.cs to display start and end date on the report.

Grouping of Columns and Rows, and Toggle Headers to Show/Hide Date

As this was to be a consultants appointments report, it made sense that the appointments be listed under the consultants. The consultant name and number was therefore used as a header that could be toggled to reveal appointment data about their appointments. Each consultant could therefore have a Speciality and appointments relating to the speciality. If However, the consultant had more than one speciality, then the same rule applies. There would be a row for the other speciality followed by the appointment details, procedure and cost information. Thus maintaining the hierarchy of consultant, followed by speciality and appointments under the speciality. It is worth noting that it was, however observed that each Consultant only had a single Speciality. Also calculation of Sum(JM_Cost) had to be outside of the group containing cost. Being outside the group containing cost, gave it coverage of all costs that could then be used to calculate the total cost for each consultant. This Sum(JM_Cost) outside of the consultant group, had coverage of the sum of the costs for all consultant. So it could be used to calculate the total of the costs for the period.

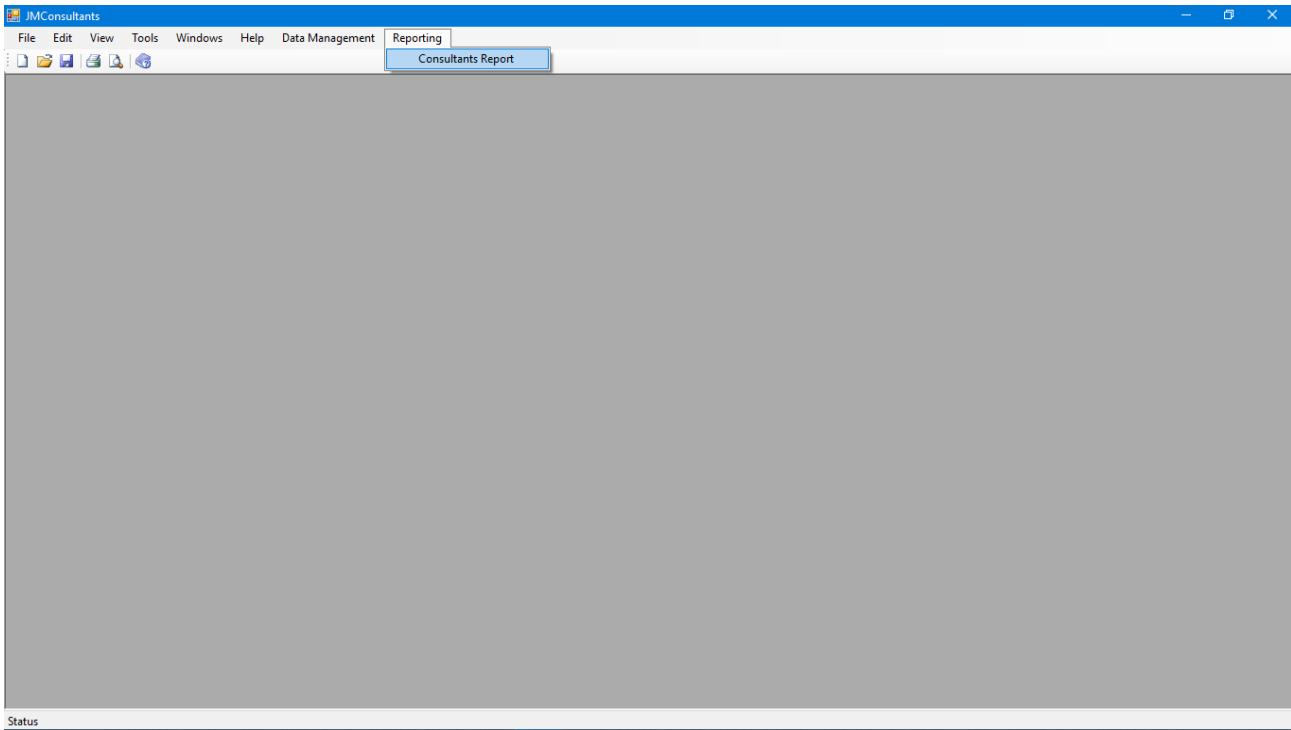
The Chart

The chart was designed to display the totals for particular appointment date days. The line graph is shows the connections between the different dates as fluctuations. On the vertical axis is the sum of the costs for the appointments on the specified date and on the horizontal axis is the appointment dates. Thus the line graph is a plot of total cost of appointments on a specified appointment day.

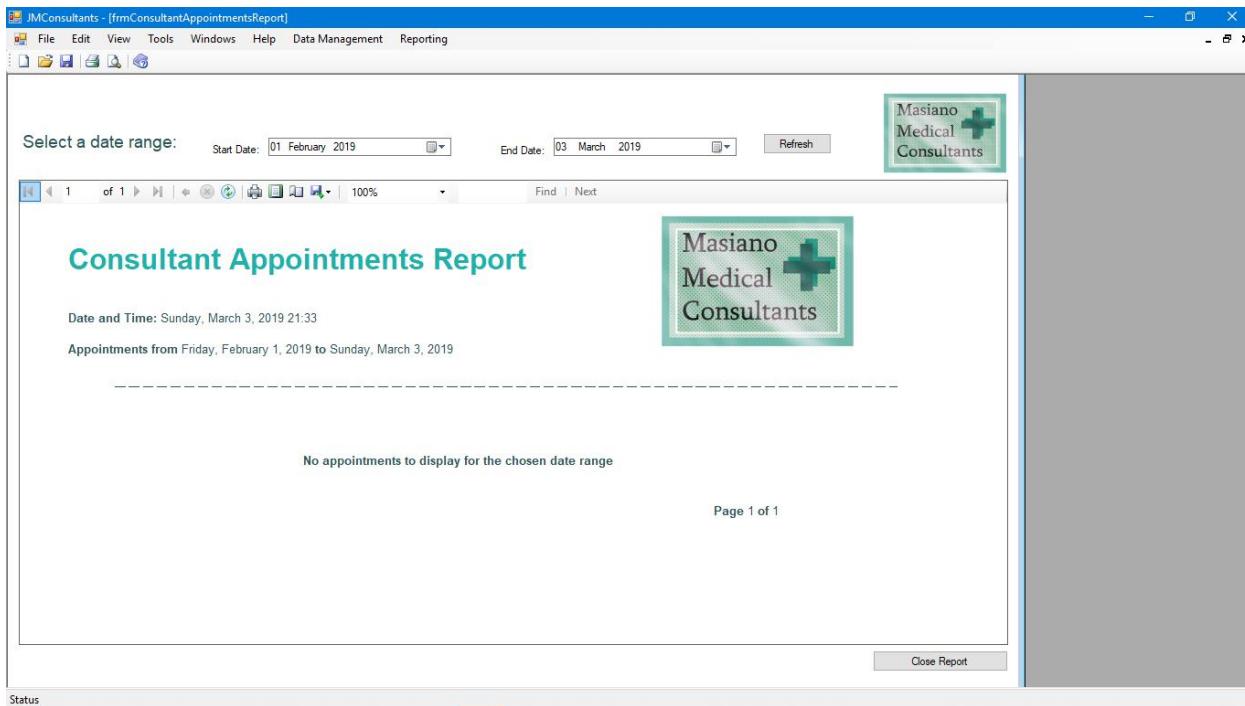
The footer contains two place holders one for the current page (=Globals!PageNumber) and the other is for the total pages =Globals!TotalPages. Thus it will display the current page the viewer is on and the total pages in the report.

The Report Viewer (F4)

1. In order to view the Consultants Appointments Report, click on Reporting in the top menu of the MDI form, then click Consultants Report

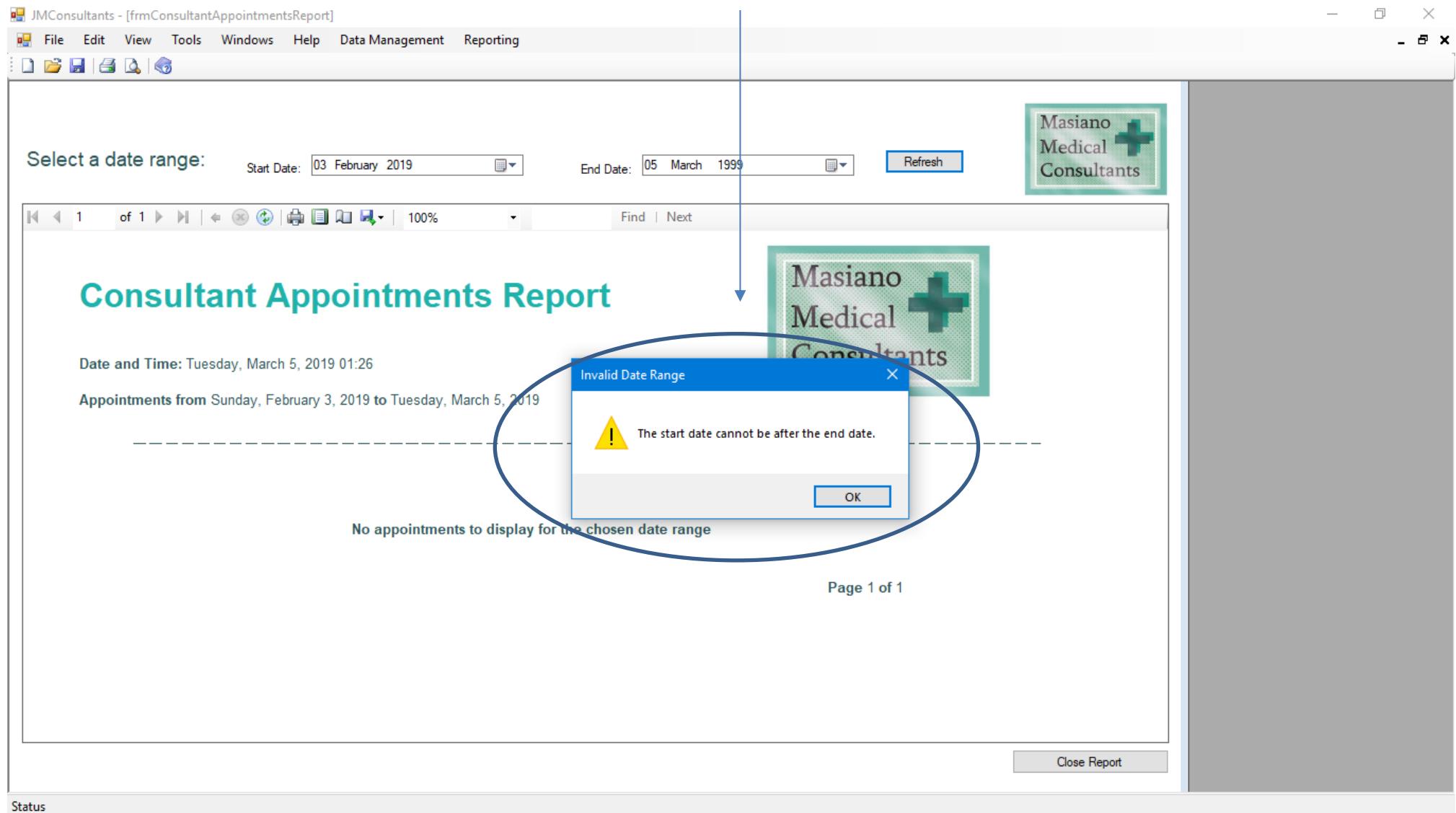


2. When the report loads you will see an empty report. The default start dates will display the last 30days of appointments. The date range will automatically be pre-set, with the End Date set to the current date and the Start Date set to a date 30 days prior. When there are no appointments to display in the given date range a message will be displayed stating "No appointments to display for the chosen date range".



Date Checking Alert Message

- Clicking on the date time picker controls will enable you to set your own date range. Then clicking refresh will update the report window with report information. If the end date is before the start date then a message will be displayed alerting the user that the start date cannot be after the end date.



Displaying the Data, Chart and Report Characteristics

4. The following dates where chosen Stat Date 01/01/1997 and End Date 01/01/1988. You will observe a summarised report initially. This will contain a collapsed view of consultant information and a summary of the total cost of appointments for each consultant, followed by the total cost of the appointments over the specified period. There is also a chart displayed below this information and can be viewed by scrolling down using the scroll bar.

JMConsultants - [frmConsultantAppointmentsReport]

File Edit View Tools Windows Help Data Management Reporting

Select a date range: Start Date: 01 January 1997 End Date: 03 January 1998 Refresh

Masiano Medical Consultants

Consultant Appointments Report

Date and Time: Sunday, March 3, 2019 21:28

Appointments from Wednesday, January 1, 1997 to Saturday, January 3, 1998

Masiano Medical Consultants

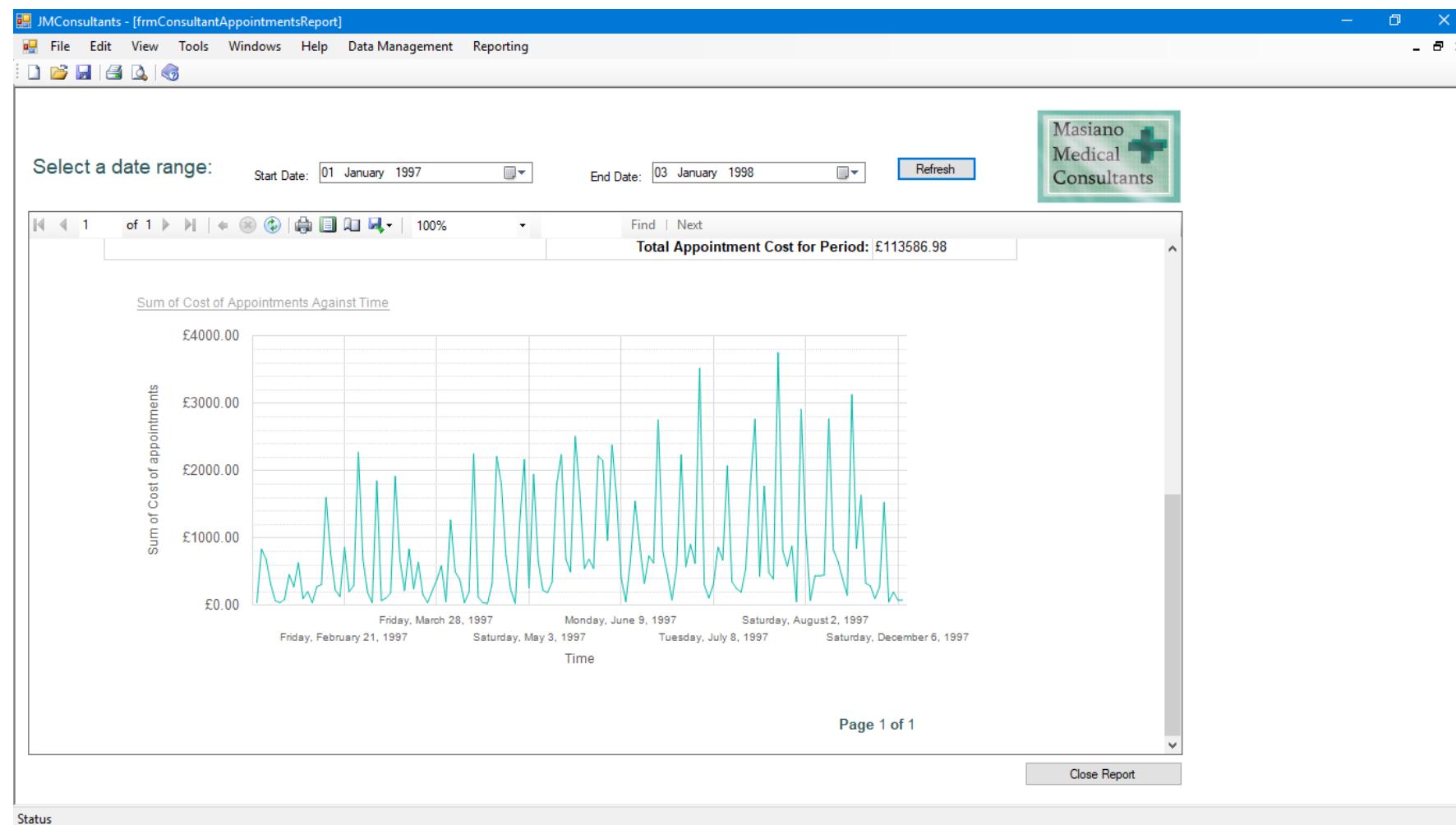
+	Consultant Number: 14, Mr F Ahmed	Total Appointment Cost: £47687.50
+	Consultant Number: 28, Mr A Dekker	Total Appointment Cost: £1995.00
+	Consultant Number: 36, Mr G Sutton	Total Appointment Cost: £31026.23
+	Consultant Number: 37, Mr H Marks	Total Appointment Cost: £32878.25 Total Appointment Cost for Period: £113586.98

Close Report

Status

The chart below is a line graph, displaying the sum of the cost of appointments (in £'s) plotted against appointment dates. A grid has been added with minor and major gridlines for better mapping of values.

Scrolling down further will reveal page numbers.



The view of the data is collapsed down and can be expanded for each consultant menu bar to reveal the consultants appointments data. Simply clicking the [+] sign to the left of the consultant number menu bar will reveal the appointment data for the consultant. To hide the data just click [-] sign to the left of the consultant number.

JMConsultants - [frmConsultantAppointmentsReport]

Select a date range: Start Date: 01 January 1997 End Date: 01 January 1998 Refresh

Masiano Medical Consultants

1 of 1 Find Next

Consultant Number: 14, Mr F Ahmed
Total Appointment Cost: £47687.50

Consultant Number: 28, Mr A Dekker
Total Appointment Cost: £1995.00

Consultant Number: 36, Mr G Sutton
Total Appointment Cost: £31026.23

Consultant Number: 37, Mr H Marks

Orthopaedics(OR)

Appointment	Procedure	Cost
Appointment No: 2623 Appointment Date: Friday, January 10, 1997 Patient ID: 264 Patient Name: Pauline Poll Hospital Number: 20 Hospital: Gateway Leicester Hospital, Gateway Street Drive	Bi-Lateral Metatarsal Osteotomy.W7980.C.M.O.1	£837.00
Appointment No: 2531 Appointment Date: Friday, January 17, 1997 Patient ID: 141 Patient Name: Margaret Patient Hospital Number: 20 Hospital: Gateway Leicester Hospital, Gateway Street Drive	Initial consultation	£60.00
Appointment No: 2605 Appointment Date: Friday, January 17, 1997	Review consultation	£40.00

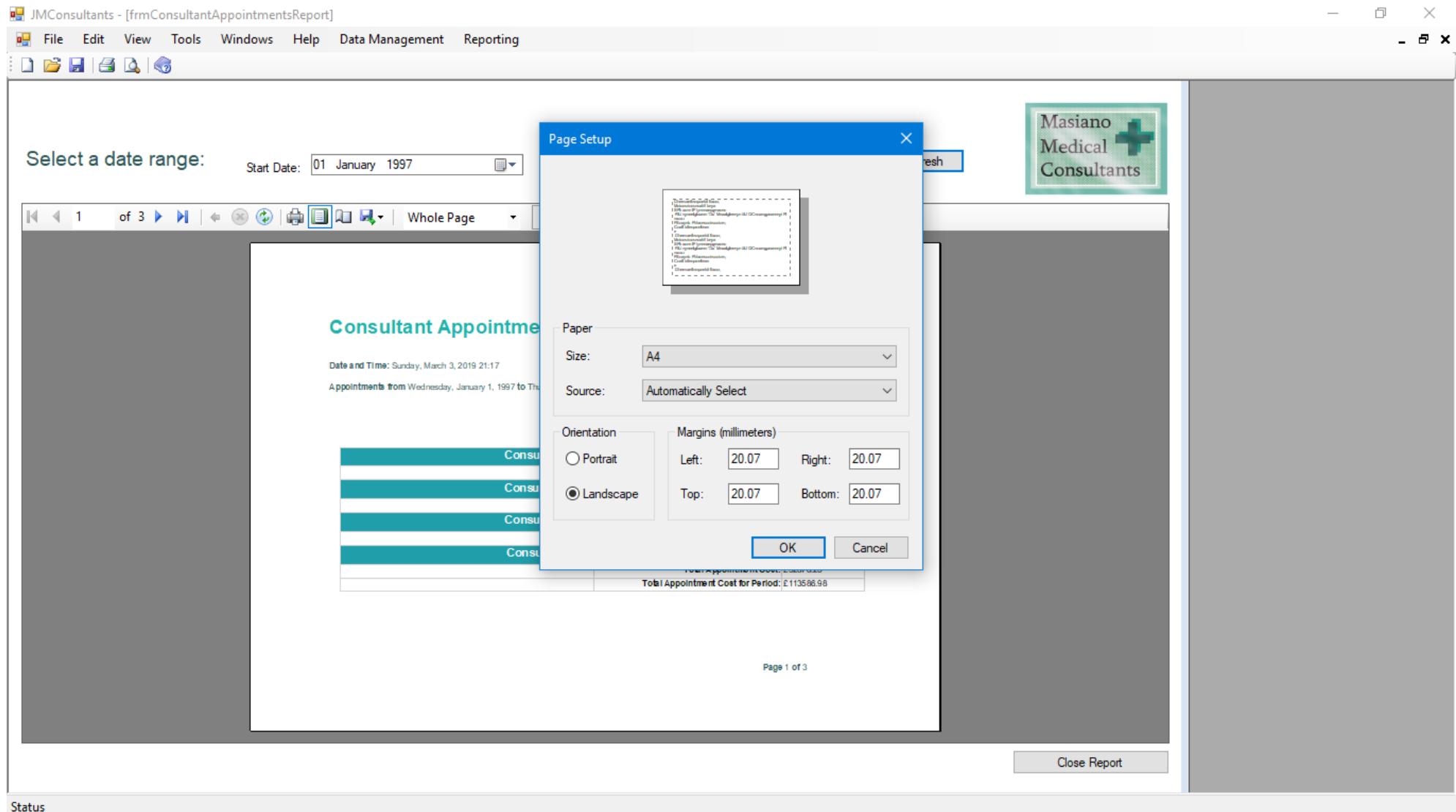
Close Report

Status

In this above example the consultant number 37 menu bar has been expanded to reveal the appointment data.

Optimised for Printing and Navigating Pages

5. Printing is made possible due to the built in features provided by report viewer. The printable area has been carefully optimised using by adjusting the height and width settings of the rptConsultantsAppointmentDates.rdlc file to enable best print in landscape layout. Simply select page setup from the report viewer window then choose landscape.



This will display the document in landscape view

JMConsultants - [frmConsultantAppointmentsReport]

File Edit View Tools Windows Help Data Management Reporting

Select a date range: Start Date: 01 January 1997 End Date: 01 January 1998 Refresh

Masiano Medical Consultants

1 of 3 Whole Page Find Next

Consultant Appointments Report

Date and Time: Sunday, March 3, 2019 21:17
Appointments from Wednesday, January 1, 1997 to Thursday, January 1, 1998

Masiano Medical Consultants

Consultant Number: 14, Mr F Ahmed	Total Appointment Cost: £47687.50
Consultant Number: 28, Mr A Dekker	Total Appointment Cost: £1995.00
Consultant Number: 36, Mr G Sutton	Total Appointment Cost: £31028.23
Consultant Number: 37, Mr H Marks	Total Appointment Cost: £32678.25 Total Appointment Cost for Period: £113566.96

Page 1 of 3

Close Report

Status

You can navigate the pages using the arrow keys to check over the pages. Here is the graph in print layout.

JMConsultants - [frmConsultantAppointmentsReport]

File Edit View Tools Windows Help Data Management Reporting

Select a date range:

Start Date: 01 January 1997 End Date: 01 January 1998 Refresh

Masiano Medical Consultants

3 of 3 Whole Page Find Next

Consultant Appointments Report

Date and Time: Sunday, March 3, 2019 21:34

Appointments from Wednesday, January 1, 1997 to Thursday, January 1, 1998

Masiano Medical Consultants

Sum of Cost of Appointments Against Time

£4000.00
£3000.00
£2000.00
£1000.00
£0.00

Friday, February 21, 1997 Friday, March 25, 1997 Saturday, May 3, 1997 Monday, June 5, 1997 Tuesday, July 3, 1997 Saturday, August 2, 1997 Saturday, December 6, 1997

Time

Page 3 of 3

Close Report

Status