Term 3

Grade 11

Practical Test

21 September 2022

Marks: 45 + 4 Bonus Time: 1 Hour

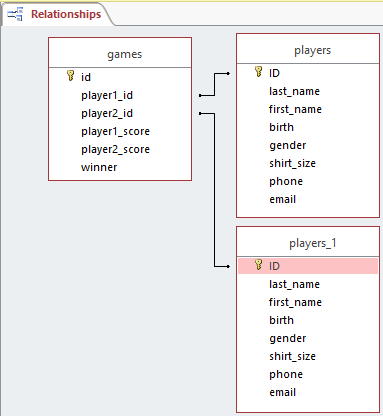
Examiner: Mr G Pearl

Moderator: Mr W S Joseph

INSTRUCTIONS

* **Rename your folder to your Admin No.**
* **Insert your Admin No as a comment on the first open space of the program.**

The database Tournament.mdb file as given contains two table with the following table structures: **tblPlayers** and **tblGames**. The tables have the following relationship between them as shown below.



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| --- | --- | --- |
| 1 | **ON PAGE CONTROL: QUESTION 1.2 ADO**  **INSERT**: Using the **tblPlayers ADOTable** component, code the following:  Ask the user for their first name and last name, save these to their respective field(s) first\_name and last\_name using the provided **TEdits**.  Set the following fields to the specified values of   * **Shirt-size** as “XXL” * **gender** as “Unknown”, and * **birth** as “2022/09/21”   Save the new data into the table. | [5] |
| 2 | **EDIT**: Using **tblPlayers ADOTable** component, code the following:  Ask the user for their shirt-size using the TComboBox **cboShirtSize**.  Set the current row’s shirt-size as the text selected in the cboShirtSize.  Save the updated data into the table. | [4] |
| 3 | **DELETE:** Using **tblPlayers ADOTable** component, code the following:  Confirm with the user that the current record is to be deleted. If the user selects yes (**mrYes),** then delete the record.  **ON PAGE CONTROL: QUESTION 2.2 SQL** | [3] |
| 4 | **SORT**:  Write an SQL statement to select all records from the table **tblPlayers** sorted by last\_name and then their first\_name. | [5] |
| 5 | **SEARCH:**  Write an SQL statement to select all records from the table **tblPlayers** where the birth field contains the month born in as being September (09). | [4] |

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| --- | --- | --- |
| 6 | **SQL Selection:**  Write an SQL statement to select all records from the table **tblPlayers** where the gender field is ‘Male’ AND the Shirt-Size is ‘M’. Display only the following fields:  Last, Name, First\_name, Gender, Shirt-Size and Birth. Ensure that the Birth shows only the Year born in as [Year Born]. | [6] |
| 7 | **SQL Filter:**  Write an SQL statement to select all records from the table **tblPlayers** where the phone field has the second set of characters starts with the characters ‘4’.  **IE: \_\_\_-4\_\_-\_\_\_** | [6] |
| 8 | **SQL TOTAL:**  Write an SQL statement to select all records from the table **tblPlayers** grouping the records by the shirt-sizes, display the number shirts-sizes of the for each group. | [5] |
| 9 | **SQL MEAN:**  Write an SQL statement to select all records from the table **tblGames** grouping by the **player1\_ID** and sorting the records by the **player1\_ID**, display the mean (average) of their scores. | [5] |
| 10 | **SQL Report** | [3] |
|  |  |  |
|  | Allow the user to generate a text-file report of all the records with the last\_name and first\_name for the **tblPlayers** based on a successful **SORT** query completed (Q4). |  |
|  |  |  |

11 Complete the various FOUR navigation component buttons for the bonus 4 marks.

INFORMATION SHEET: COMMON DELPHI COMMANDS

|  |  |
| --- | --- |
| **Commands: Built In** | **Description / Example** |
| **Type Conversion Functions** | |
| **IntToStr**(*int*) | *Converts from Integer (Wholes) to String* |
| **FloatToStr**(*float*) | *Converts from Floats (Fractions) to String* |
| **BoolToStr**(*Boolean*) | *Converts from Boolean (true/false) to String (-1, 0)* |
| **DateToStr**(*Date*) | *Converts from Date (any format) to String* |
| **TimeToStr**(*Time*) | *Converts from Time (any format) to String* |
| **FloatToStrF**(*float, format, i, d*) | *Converts from Floats (Fractions) to String Formatted* |
| **Function TryStrToInt(**string, number**) = TRUE when successful** | |
| **Character Functions** | |
| **UPCASE**(*char*) | **UPCASE**(‘x’) **→** “X” |
| **ORD**(*char*) | **ORD**(‘A’) **→ 65** |
| **CHR**(*number*) | **CHR**(65) **→ ‘A’** |
| **#9 Tab Space** | *Adds a tab space character when used in TRichEdit or Textfiles* |
| **#10 Line Feed** | *Adds a line feed character when used in TRichEdit or Textfiles* |
| **#13 Carriage Return** | *Adds a carriage return character when used in TRichEdit or Textfiles* |
|  | |
| **String Functions** *var data: String; data := ‘Examination’;* | |
| **COPY**(*string*, *from* ,*spaces*) | **Copy**(data,1,4) **→** “Exam” |
| **POS**(*needle*, *haystack*) | **Pos**(‘min’,data) **→4** |
| **DELETE**(*string*, *from*, *spaces*) | **Delete**(data,1,); **→**ination |
| **LENGTH**(*string*) | **Length**(data) **→11** |
| **UPPERCASE**(*string*) | **Uppercase**(data) **→** ’EXAMINATION’ |
|  | |
| **Maths Functions** | |
| **Random**(*seedrange*) | **Random**(10) **→** A value from 0..9 |
| **Ceil**(*float*) | **Ceil**(5.4) **→ 6** |
| **Floor**(*float*) | **Floor**(5.4) **→ 5** |
|  | |
| **Repetition Structures Conditional Structures**  *var iLoop: Integer;* *conditions are mini-functions converted to Boolean statements* | |
| **For** iLoop := 1 to 10 do  Begin …  End; | **IF (***condition***) THEN** …  **ELSE** … |
| iLoop := 0;  **WHILE** (iLoop < 10) Do  Begin …  **INC**(iLoop);  End; | **CASE (***condition***) OF**  *condition* **: …***handler;*  *condition* **: …***handler;*  *ELSE*…  **End;** |
| iLoop := 0;  **REPEAT …**  **INC**(iLoop);  **UNTIL** (iLoop = 10); | **Conditional Logic**: AND, OR, NOT  **Set Operator Comparator: IN**[‘A’…’Z’] or **IN**[1..255] |
|  |  |
| **Communication Dialogs** |  |
| **ShowMessage**(*message*); | **InputBox**(*title, label, default*) |