



Cambridge IGCSE™

INFORMATION AND COMMUNICATION TECHNOLOGY

0417/21

Paper 2 Document Production, Databases and Presentations

May/June 2023

MARK SCHEME

Maximum Mark: 70

Published

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began, which would have considered the acceptability of alternative answers.

Mark schemes should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

Cambridge International will not enter into discussions about these mark schemes.

Cambridge International is publishing the mark schemes for the May/June 2023 series for most Cambridge IGCSE, Cambridge International A and AS Level and Cambridge Pre-U components, and some Cambridge O Level components.

Generic Marking Principles

These general marking principles must be applied by all examiners when marking candidate answers. They should be applied alongside the specific content of the mark scheme or generic level descriptors for a question. Each question paper and mark scheme will also comply with these marking principles.

GENERIC MARKING PRINCIPLE 1:

Marks must be awarded in line with:

- the specific content of the mark scheme or the generic level descriptors for the question
- the specific skills defined in the mark scheme or in the generic level descriptors for the question
- the standard of response required by a candidate as exemplified by the standardisation scripts.

GENERIC MARKING PRINCIPLE 2:

Marks awarded are always **whole marks** (not half marks, or other fractions).

GENERIC MARKING PRINCIPLE 3:

Marks must be awarded **positively**:

- marks are awarded for correct/valid answers, as defined in the mark scheme. However, credit is given for valid answers which go beyond the scope of the syllabus and mark scheme, referring to your Team Leader as appropriate
- marks are awarded when candidates clearly demonstrate what they know and can do
- marks are not deducted for errors
- marks are not deducted for omissions
- answers should only be judged on the quality of spelling, punctuation and grammar when these features are specifically assessed by the question as indicated by the mark scheme. The meaning, however, should be unambiguous.

GENERIC MARKING PRINCIPLE 4:

Rules must be applied consistently, e.g. in situations where candidates have not followed instructions or in the application of generic level descriptors.

GENERIC MARKING PRINCIPLE 5:

Marks should be awarded using the full range of marks defined in the mark scheme for the question (however; the use of the full mark range may be limited according to the quality of the candidate responses seen).

GENERIC MARKING PRINCIPLE 6:

Marks awarded are based solely on the requirements as defined in the mark scheme. Marks should not be awarded with grade thresholds or grade descriptors in mind.

Task 2 – Document Production

Question	Answer	Marks
1	File saved as FESTIVAL with evidence of file type	1
2		2
	Name, centre number, candidate number right aligned in header	1
	Automated page numbers left aligned in footer	1
3		2
	CF-title style created, named correctly, based on normal/default	1
	CF-title style attributes – serif 32pt, centred, bold, italic, single line, 0pt before, 9pt after	1
4	CF-title style applied to title text – matches style defined in Evidence 2	1
5		2
	Section break – applied to correct text	1
	2 columns, 1.5 cm column spacing	1
6	Correct image inserted in correct paragraph	1
7	Image reflected horizontally	1
8		2
	Image resized to 4 cm wide with aspect ratio maintained	1
	Image aligned to top of text and left margin with text wrapped	1
9		3
	Bullets applied to correct text	1
	Bullets indented 1.5 cm from left margin	1
	Bullets in single line, 6pt after last item	1
10	Table complete and intact, <i>Lunch</i> column and contents deleted	1
11		4
	Table – column 1, 7 rows merged	1
	Table – column 1 text rotated anticlockwise 90°	1
	Table – column 1 white text on black background	1
	Table – column 1 text centred vertically and horizontally	1

Question	Answer	Marks
12		3
	Table – CF-table style applied columns 2, 3, and 4 only	1
	Table – 1pt internal and external gridlines printed	1
	Table borders and all data fit within column width, all text on one line, 6pt below table	1
13	Table text *NEW formatted to display as superscript	1
14	Document spell checked and proofread – layout complete and paragraphs intact	1

Task 3 – Database

Question	Answer	Marks
15		2
	<i>Results</i> table – All 11 field names and data types as given	1
	<i>Results</i> table – <i>Race_No</i> field set as primary key	1
16	<i>Start_times</i> table – 5 field names as given, correct data types, PK = <i>Group_Code</i>	1
17	<i>Cat_Codes</i> – 4 field names as given, correct data types, PK = <i>Cat_Code</i>	1
18	1-to-Many relationships: <i>Group_Code</i> (<i>Start_times</i>) and <i>Start_Code</i> (<i>Results</i>) <i>Cat_Code</i> (<i>Cat_codes</i>) and <i>Cat_Code</i> (<i>Results</i>)	1
19		2
	New record – does not replace record 1011 Justin Fernsby	1
	New record – entered once, 100% accurate – 1203 Basil Wardle 68 Power Cycles FIN 01:25:13	1

Question	Answer	Marks
20		9
	Report title Scratch Category Outcomes 100% accurate, larger font, fully visible, top of page	1
	Select records – <i>Group_Code</i> is HC00	1
	Select records – <i>YOB</i> is >=1975	1
	Records sorted descending order of <i>YOB</i>	1
	Correct 7 fields in correct order – <i>Group_Code</i> <i>Last_Name</i> <i>First_Name</i> <i>YOB</i> <i>Status</i> <i>Race_Time</i> <i>Event_Rank</i>	1
	Print layout – portrait, all fields present, fits a single page only, no field truncation	1
	Calculated count of records (32), end of report, integer display, fully visible	1
	Calculated count label <i>Number of cyclists</i> 100% accurate, left of value	1
	Screenshot evidence of database formula to count number of cyclists	1
21		11
	Report footer – Name, centre number, candidate number in report footer, appears on every page	1
	Report title Power Club Results – 100% accurate, fully visible, large font, top	1
	Calculated field – field heading Time_per_km – 100% accurate	1
	Calculated field – average time calculated – correct values	1
	Calculated field – <i>Time_per_km</i> values display in the format hh:mm:ss	1
	Select records – <i>Club_Name</i> includes the text power	1
	Select records – <i>Status</i> does not include DNF or DNS	1
	Records sorted on 2 fields – ascending on <i>Club_Name</i> then ascending on <i>Cat_Rank</i>	1
	Correct 8 fields in correct order, headings match data – <i>Race_No</i> <i>First_Name</i> <i>Last_Name</i> <i>Cat_Rank</i> <i>Club_Name</i> <i>Category</i> <i>Status</i> (<i>Time_per_km</i>) <i>Race_Time</i>	1
	Print layout – landscape, one page wide, all base fields, no truncation	1
	Screenshot evidence of database search criteria – <i>Status</i> <> DNF and <> DNS	1

Task 4 – Presentation

Question	Answer	Marks
22	Presentation complete – 6 slides imported, consistent title/bullet layout, no blank slides, no text changed	1
23		3
	Master slide – automated slide numbers top right, same position, no additional items, no overlap	1
	Master slide – name, centre number, candidate number bottom left, same position	1
	Master slide – 3-4 pt horizontal line above ID details, 3 cm from bottom, full width of slide, no overlap	1
24	Slide 1 – title layout, title larger than subtitle, centred – middle of slide, no bullet	1
25	Pie chart created using correct data	1
26	Chart title Percentage wins by group 100% accurate	1
27		3
	Sector labels display the group and percentage	1
	Chart labels displayed outside each sector, no legend	1
	Percentages displayed to 1 decimal place	1
28	Largest segment only pulled away from chart	1
29	Chart on correct slide, right of bullets, data fully visible, does not overlap text	1
30		2
	Presenter notes added to correct slide and accurate – Race winner analysis – 38 races completed in 2022	1
	Correct slide printed as presenter/speaker notes in portrait orientation	1
31		3
	Correct text <i>Race Director</i> linked	1
	Email link addressed to RD@ cambridge.org	1
	Email link subject 100% accurate Race Handicaps	1
32	All slides printed as handouts, portrait orientation, 2 slides to page, each filling half page	1

Header

Name, centre number, candidate number right aligned, no other items 1 mark

Tawara Cycling Festival

We are delighted to announce the return of the Tawara Cycling Festival this summer. The event will be held on Sunday 27 August 2023 and is open to all club members and visiting cyclists. It will be the largest cycling event in the region this year. We have spectacular routes, beautiful scenery and exceptional entertainment planned in an amazing location. This is an event where the whole family is welcome, either cycling the family-friendly short route together or cheering the return of cyclists completing the longer routes. There are plenty of activities planned to make it a fun day out for all. Every penny of your entry fee helps to give you the best day possible and we reinvest any leftover funds into local cycling ventures and community projects.

The Tawara Cycling Festival is for all experience levels, ages and abilities. We have routes of 25, 50, 75 and 100 mile routes, with a family-friendly ride of 6 to 10 miles for younger children. All routes have been planned to accommodate the riding ability of all participants from expert riders to complete novices.

Columns

Section break - applied to correct text 1 mark
 2 columns, 1.5 cm column spacing 1 mark

The Trails

20 August or earlier if a trail is fully subscribed. Details of the available trails are

Image

Image inserted in correct paragraph 1 mark
 Image flipped so bike faces left 1 mark
 Aligned to top of text, left of column, text wrapped 1 mark
 Resized to 4 cm wide, aspect ratio maintained 1 mark

(mi)	Fee	Climb (ft)
25	£7.00	209
50	£15.00	949
75	£20.00	1,640
100	£25.00	2,112
150 ^{NEW}	£32.00	4,169



All trails start and finish at the lake. In order to keep all riders as safe as possible, please do not drink alcohol before the event.

Registering and participating in a trail is taken as acknowledgment that each cyclist accepts the event is a non-refundable activity.

Table

Table complete and intact, *Lunch* column and contents deleted 1 mark
 Column 1–7 rows merged 1 mark
 Column 1 text rotated anticlockwise 90° 1 mark
 Column 1 white text on black background 1 mark
 Column 1 text centred vertically and horizontally 1 mark
 Only the text *NEW formatted to display as superscript 1 mark
 1 pt internal and external gridlines printed 1 mark
 Borders & data fit within column width, text on one line, 6 pt below table 1 mark
 CF-table style applied columns 2, 3, and 4 only 1 mark

Registration and Participation

Event registration and payment must be completed online prior to the festival. Please ensure you provide valid contact information and details of an emergency contact. Cash transactions cannot be accepted. Entries are limited to 150 for each trail distance so early registration is advisable. Entries will close on Sunday 27 August 2023 at 10:00 AM.

Locations, emergency contact numbers and hazard signage to ensure riders can adequately prepare for the event.

On the day of the festival riders will need to check in by showing a copy of their confirmation email or photographic identification. All participants will be given a rider number. Riders are responsible for their own bike and equipment. The bike must be fully roadworthy and a cycle helmet must be worn at all times.

Footer

Automated page number left aligned, no other items 1 mark

Task 3 – Database

Title

Title 100% accurate, fully visible 1 mark

Specified fields, correct order,
headings match the data 1 mark
Sort descending on YOB 1 mark**Scratch Category Outcomes**

Name, centre number, candidate number

Group_Code	Last_Name	First_Name	YOB	Status	Race_Time	Event_Rank
HC00	Linder	Trinity	2005	FIN	01:35:35	305
HC00	Turgeon	Anna-Gabrielle	2004	FIN	01:32:58	266
HC00	Wolestenholme	Luther	2003	FIN	01:39:52	347
HC00	Weston	Christina	2001	FIN	01:29:41	211
HC00	Lagace	Dougal	2001	DNF	00:37:00	0
HC00	Annerman	Stuart	2000	FIN	01:22:57	60
HC00	Collins	Nathaniel	2000	FIN	01:41:20	358
HC00	Rowlands	Hakeem	1998	FIN	01:31:05	235
HC00	Makela	Xavier	1998	FIN	01:39:48	346
HC00	Coleman	Brandon	1998	DNF	00:44:32	0
HC00	Wrigglesford	Leonard	1997	FIN	01:25:40	133
HC00	Fogg	Montgomery	1996	DNS	00:00:00	0
HC00	Wilson	Olaf	1996	FIN	01:20:11	7
HC00	Caskey	Shauna	1995	FIN	01:23:36	77
HC00	Lunn	Oleg	1995	FIN	01:25:55	140
HC00	Kinniburgh	Gunther	1995	FIN	01:29:59	221
HC00	Mercer	Zenaida	1994	DNS	00:00:00	0
HC00	Loveday	Barry	1994	FIN	01:40:14	349
HC00	Turner	Stevie-Jane	1994	FIN	01:23:11	67
HC00	Sherstan	Walter	1994	FIN	01:25:12	121
HC00	Bayne	Marvin	1993	FIN	01:35:58	309
HC00	Piller	Idris	1992	FIN	01:36:10	312
HC00	Ward	Cecil	1991	FIN	01:52:36	384
HC00	Sproule	Louis	1991	DNF	00:53:49	0
HC00	Pattison	Gloria	1988	FIN	01:22:37	52
HC00	Jackman	Amanda	1987	DNS	00:00:00	0
HC00	Caouette-Rochon	Olive	1984	DNF	01:30:33	0
HC00	Walkingshaw	Max	1982	FIN	01:26:34	158
HC00	Brown	Marina	1978	FIN	01:33:42	280
HC00	Watson	Oscar	1977	FIN	01:19:26	1
HC00	Verveda	Eric	1975	FIN	01:23:09	66
HC00	Gunawardena	Kiera	1975	FIN	01:24:11	93

Select records (32):

Group_Code is HC00

1 mark

YOB is >=1975

1 mark

Number of cyclists

32

Correct count of records, end of report, integer display, fully visible 1 mark

Label *Number of cyclists* 100% accurate, left of value 1 mark

Portrait, all fields present, fits a single page only, no field truncation 1 mark

Title

Title 100% accurate, fully visible

1 mark

Calculated field

Heading 100% accurate

1 mark

Average time calculated - correct values

1 mark

Displays in the format hh:mm:ss

1 mark

Power Club Results

Race_No	First_Name	Last_Name	Cat_Rank	Club_Name	Category	Status	Time_per_km	Race_Time
1420	Olaf	Wilson	3	Empowerment Racing	Senior	FIN	00:01:36	01:20:11
1485	Sam	Holmwood	15	Empowerment Racing	Espoir	FIN	00:01:46	01:28:42
1353	Reuben	Thwaites	61	Empowerment Racing	Senior	FIN	00:01:42	01:24:35
1346	Archie	Pennington	89	Empowerment Racing	Senior	FIN	00:01:44	01:26:39
1159	Monica	Kingwell	101	Empowerment Racing	Senior	FIN	00:01:46	01:27:55
1047	Athena	Linley	151	Empowerment Racing	Senior	FIN	00:01:51	01:32:29
1560	Nancy	Lee	12	Power Bike Rangers	Espoir	FIN	00:01:46	01:28:22
1527	Lucinda	Telford	13	Power Bike Rangers	Espoir	FIN	00:01:46	01:28:31
1319	Stuart	Annerman	31	Power Bike Rangers	Senior	FIN	00:01:40	01:22:57
1388	Ernest	Hoyle	36	Power Bike Rangers	Senior	FIN	00:01:40	01:23:07
1628	Jackson	Graham	59	Power Bike Rangers	Master	FIN	00:01:47	01:29:05
1235	Loy	Bain	70	Power Bike Rangers	Master	FIN	00:01:56	01:37:03
1381	Philippe	Parker	127	Power Bike Rangers	Senior	FIN	00:01:49	01:30:34
1364	Stephen	Costello	251	Power Bike Rangers	Senior	FIN	00:02:16	01:53:44
1100	Wilhelm	Magsamen	8	Power Cycles	Espoir	FIN	00:01:43	01:25:29
1192	Guri	Doehring	51	Power Cycles	Senior	FIN	00:01:41	01:23:45
1011	Justin	Fernsby	61	Power Cycles	Master	FIN	00:01:49	01:30:56
1203	Basil	Wardle	68	Power Cycles	Senior	FIN	00:01:42	01:25:13
1393	Ivan	Vanderlee	108	Power Cycles	Senior	FIN	00:01:47	01:29:01

New record – does not replace record 1011 Justin Fernsby 1 mark

New record – entered once, 100% accurate 1 mark

Select records (45):*Club_Name* includes the text **power** 1 mark*Status* does **not** include **DNF** or **DNS** 1 mark

Name, centre number, candidate number

PUBLISHED

Race_No	First_Name	Last_Name	Cat_Rank	Club_Name	Category	Status	Time_per_km	Race_Time
1151	Alexandria	Bourgue	182	Power Cycles	Senior	FIN	00:01:54	01:34:59
1725	Pierce	Wichuk	10	Powerhouse Pedallers	Veteran	FIN	00:02:47	02:19:24
1760	Carmelo	Mills	50	Powerhouse Pedallers	Senior	FIN	00:01:40	01:23:44
1595	Sarah	Bedard	62	Powerhouse Pedallers	Master	FIN	00:01:50	01:32:00
1181	Spencer	Bone	159	Powerhouse Pedallers	Senior	FIN	00:01:52	01:33:09
1622	Shawna	Bonham	224	Powerhouse Pedallers	Senior	FIN	00:02:01	01:40:33
1498	Mackenzie	Platt	14	Team Pedal Power	Espoir	FIN	00:01:46	01:28:38
1240	Shaughn	Davies	32	Team Pedal Power	Senior	FIN	00:01:40	01:23:00
1802	Cyril	Hearle	66	Team Pedal Power	Senior	FIN	00:01:42	01:25:06
1450	Sven	Swift	110	Team Pedal Power	Senior	FIN	00:01:47	01:29:32
1702	Ajax	Janssen	155	Team Pedal Power	Senior	FIN	00:01:51	01:32:51
1177	Lucas	Cychowski	199	Team Pedal Power	Senior	FIN	00:01:56	01:36:38
1679	Jonathon Scott	Freemantle	4	Team Superpowered Rollers	Veteran	FIN	00:01:40	01:23:23
1766	Pepper	Gardner	6	Team Superpowered Rollers	Master	FIN	00:01:37	01:20:40
1655	Hunter	Watson	41	Team Superpowered Rollers	Master	FIN	00:01:43	01:25:50
1013	Niels	Bickham	56	Team Superpowered Rollers	Master	FIN	00:01:45	01:27:40
1665	Albert	Sutton	60	Team Superpowered Rollers	Master	FIN	00:01:47	01:29:30
1376	Nigel	Sissons	176	Team Superpowered Rollers	Senior	FIN	00:01:53	01:34:21
1416	Wendell	Stafford	180	Team Superpowered Rollers	Senior	FIN	00:01:54	01:34:36
1294	Hayden	Tatlow	11	Team Velopower	Senior	FIN	00:01:37	01:21:12
1606	Carthy	Young	43	Team Velopower	Master	FIN	00:01:43	01:26:00
1200	Samuel	Hanks	62	Team Velopower	Senior	FIN	00:01:42	01:24:36
1206	Harrison	Cooper-Holmes	77	Team Velopower	Senior	FIN	00:01:43	01:25:45
1811	Yannick	Tomassini	195	Team Velopower	Senior	FIN	00:01:55	01:36:12
1816	Oleksa	Hundert	200	Team Velopower	Senior	FIN	00:01:56	01:36:42
1713	Theodore	Cranston	245	Team Velopower	Senior	FIN	00:02:08	01:46:54

Specified base fields (8), all fields correct order, headings match data 1 mark
Landscape, one page wide, all base fields, no truncation 1 mark
Sort ascending on *Club_Name* then ascending on *Cat_Rank* (no grouping) 1 mark
Name, centre number, candidate number in footer, appears on every page 1 mark

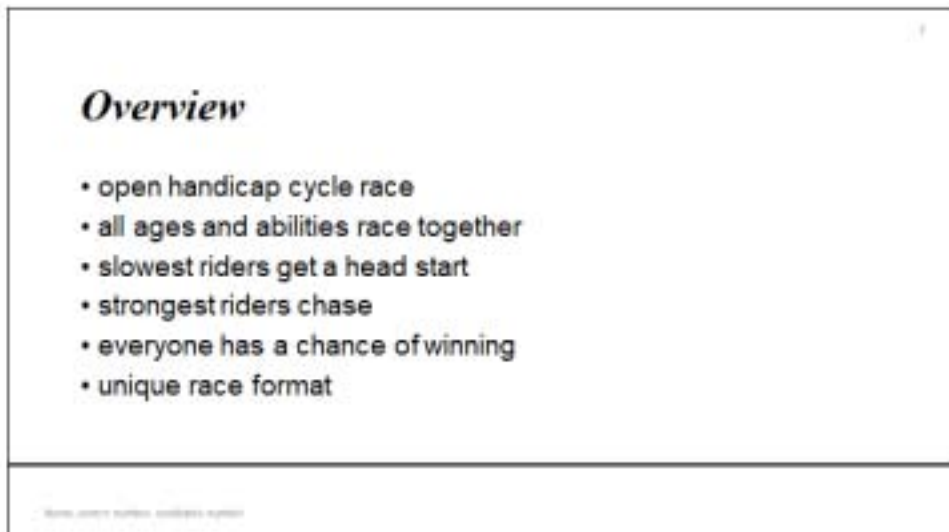
Name, centre number, candidate number

Task 4 – Presentation

Slides imported, consistent title/bullet layout, no blank slides, no text changed	1 mark
Master slide	
Automated slide numbers top right, same position, no additional items, no overlap	1 mark
Name, centre number, candidate number bottom left, same position	1 mark
3–4 pt horizontal line above ID details, approx 3 cm from bottom, full width of slide, no overlap	1 mark



Slide 1 – Title layout, title larger than subtitle, centred - middle of slide, no bullet	1 mark
<u>All</u> slides printed as handouts, portrait orientation, 2 slides to page, each filling half the page	1 mark



21/07/2021

Race Format

- cyclists grouped by ability
- each group is given a time handicap
- each group races as a team in matching colours
- all groups converge in the closing stages of the race
- race winner is the first rider over the finishing line
- fastest race time also receives recognition

Name: _____ Number: _____

Handicaps

- handicaps are determined by the [Race Director](#)
- based on ability, previous race results, course profile and weather conditions
- start times are staggered
- slowest cyclists leave first (limit group)
- the strongest cyclists leave last (scratch group)

Name: _____ Number: _____

21/07/2021

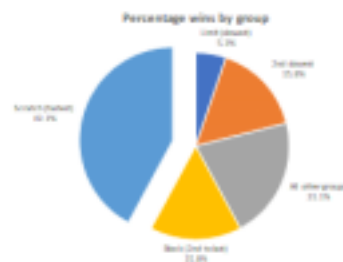
Race Tactics

- race format promotes teamwork as an individual cannot outrun the chasing teams
- each team works together to stay ahead of the chasing groups and to close the gap to the group ahead
- team members alternate leading the group
- slipstreaming saves energy and increases the team speed
- most races end in an individual sprint for the finish line

Name, centre number, candidate number

Scratch Group Cyclists

- won 42.1% of the time despite starting last
- have the greatest likelihood of winning
- win often, but not always
- won less than half the time despite being the fastest cyclists



Name, centre number, candidate number

3

- Pie chart created using correct data 1 mark
- Chart title **Percentage wins by group** – 100% accurate 1 mark
- Sector labels display the group and percentage 1 mark
- Chart labels displayed outside each sector, no legend 1 mark
- Percentages displayed to 1 decimal place 1 mark
- Largest sector only pulled away from chart 1 mark
- Chart on correct slide, right of bullets, data fully visible, does not overlap text 1 mark

Scratch Group Cyclists

- won 42.1% of the time despite starting last
- have the greatest likelihood of winning
- win often, but not always
- won less than half the time despite being the fastest cyclists

Group	Percentage
Scratch (fastest)	42.1%
Slowest	2.2%
2nd slowest	15.8%
All other groups	21.1%
Slow (2nd to last)	11.8%

Race winner analysis - 38 races completed in 2022

- Presenter notes, correct slide and 100% accurate 1 mark
- Only *Scratch Group Cyclists* slide printed as presenter/speaker notes, portrait 1 mark

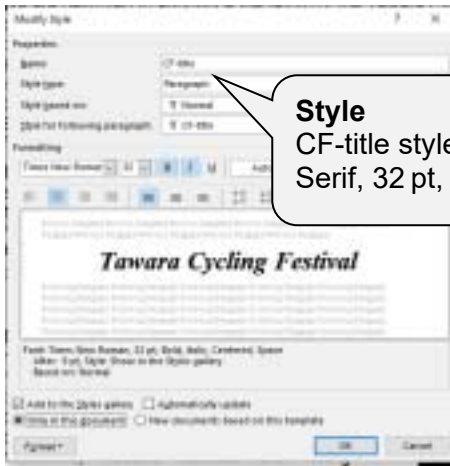
EVIDENCE DOCUMENT

Step 1 – EVIDENCE 1

File saved as FESTIVAL with evidence of correct file type 1 mark



Step 3 – EVIDENCE 2



Style
 CF-title style created, named correctly, based on normal/default 1 mark
 Serif, 32 pt, centred, bold, italic, single line, 0 pt before, 9 pt after 1 mark

Step 15 – EVIDENCE 3

Field Name	Data Type
Start_Code	Short Text
Last_Name	Short Text
First_Name	Short Text
Race_No	Number
Club_Name	Short Text
Cat_Code	Short Text
YOB	Number
Race_Time	Date/Time
Status	Short Text
Event_Rank	Number
Cat_Rank	Number

DB Structure – j2321results.csv table
 All 11 field names and data types as given 1 mark
 Race_No set as primary key 1 mark

Step 16 – EVIDENCE 4

Field Name	Data Type
Group_Code	Short Text
Bib_Colour	Short Text
Grade	Short Text
Group_Name	Short Text
Start_Time	Date/Time

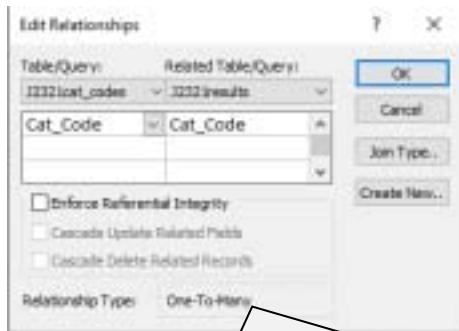
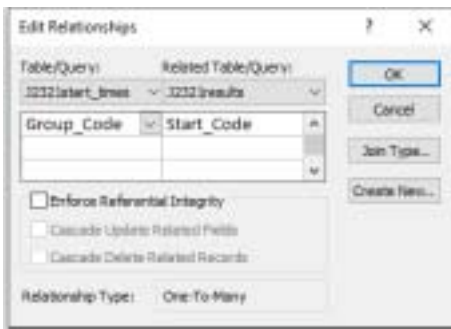
DB Structure - j2321start_times.csv table
 All field names and data types as given
 Group_Code field as primary key 1 mark

Step 17 – EVIDENCE 5

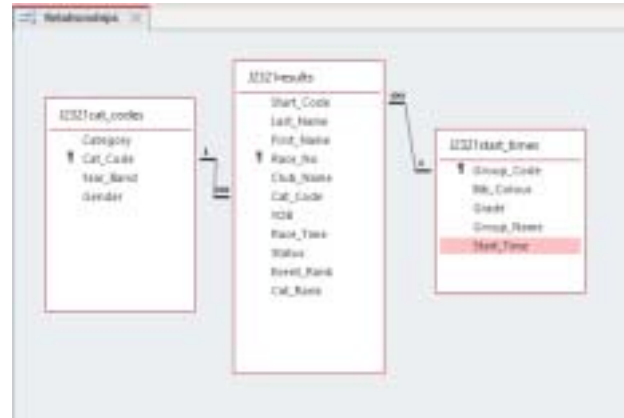
Field Name	Data Type
Category	Short Text
Cat_Code	Short Text
Year_Band	Short Text
Gender	Short Text

DB Structure – j2321cat_codes.csv table
All field names and data types as given
Cat_Code field as primary key 1 mark

Step 18 – EVIDENCE 6

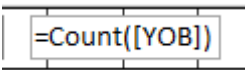


OR



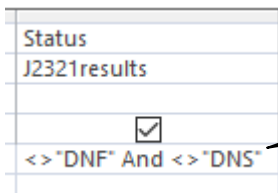
1-to-Many relationship *Group_Code* (start_times) and *Start_Code* (results)
 1-to-Many relationship *Cat_Code* (cat_codes) and *Cat_Code* (results) 1 mark

Step 20 – EVIDENCE 7



Screenshot evidence of database formula to calculate the number of competitors 1 mark

Step 21 – EVIDENCE 8



Single screenshot evidence of database search criteria **Status <> DNF and <> DNS** 1 mark

Step 31 – EVIDENCE 9



Correct text *Race Director* linked 1 mark
 Email address **RD@cambridge.org** 1 mark
 Subject 100% accurate **Race Handicaps** 1 mark