Mark Scheme (Results)

Summer 2023

Pearson Edexcel International Advanced Level
In Information Technology (WIT14)
Paper 01 Relational Databases

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General Marking Guidance

- All candidates must receive the same treatment. Examiners must mark the first candidate in exactly the same way as they mark the last.
- Mark schemes should be applied positively. Candidates must be rewarded for what they have shown they can do rather than penalised for omissions.
- Examiners should mark according to the mark scheme not according to their perception of where the grade boundaries may lie.
- There is no ceiling on achievement. All marks on the mark scheme should be used appropriately.
- All the marks on the mark scheme are designed to be awarded. Examiners should always award full marks if deserved, i.e. if the answer matches the mark scheme. Examiners should also be prepared to award zero marks if the candidate's response is not worthy of credit according to the mark scheme.
- Where some judgement is required, mark schemes will provide the principles by which marks will be awarded and exemplification may be limited.
- When examiners are in doubt regarding the application of the mark scheme to a candidate's response, the team leader must be consulted.
- Crossed out work should be marked UNLESS the candidate has replaced it with an alternative response.

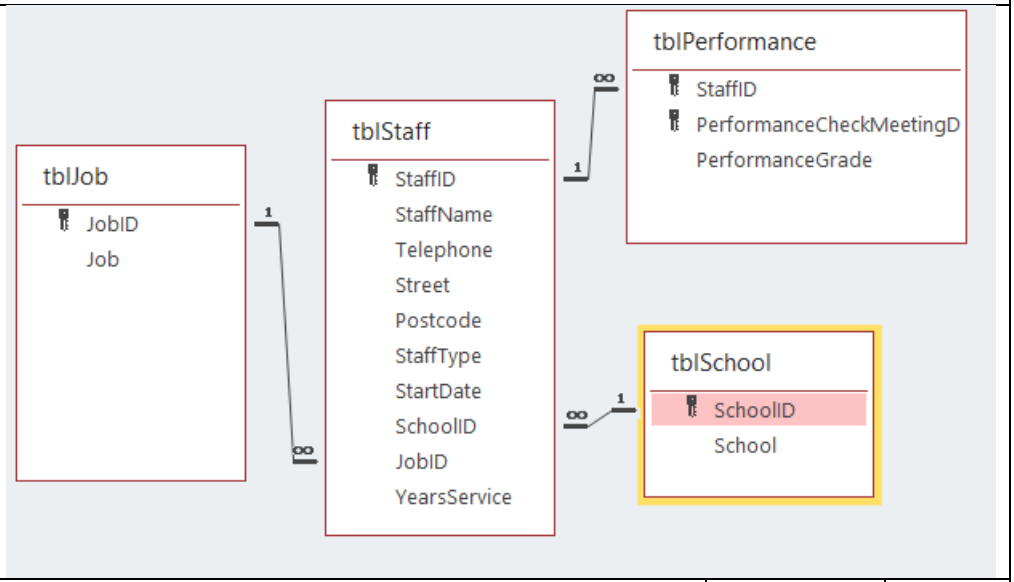
Unit 4 Summer 2023– Mark Scheme

Note to examiners

Where example screenshots are included, these are indicative content only and not a definitive answer. Students should receive credit based on the marking instructions in the answer column.

Question number	Answer		Additional Guidance	Mark
1(a)i	**Format check for postcode**			
	A1	Input mask on postcode field LL0 0LL LL0\ 0LL	Accept any mask that is correct Must see field it applies to	1
	A2	Forced to uppercase >	Must see field it applies to	1
			Total	**2**
1(a)ii	**Presence check for staff name field**			
	A3	Presence check on staff name field Validation rule of 'Is Not Null'	Allow Required set to **yes** Must see field it applies to	1
	A4	Suitable error message e.g. 'You must input the staff name'	Must also have suitable validation rule to achieve this mark	1
			Total	**2**
1(a)(iii)	**Identification and correction of data type error**			
	A5	StartDate changed to Date/Time		1
			Total	**1**

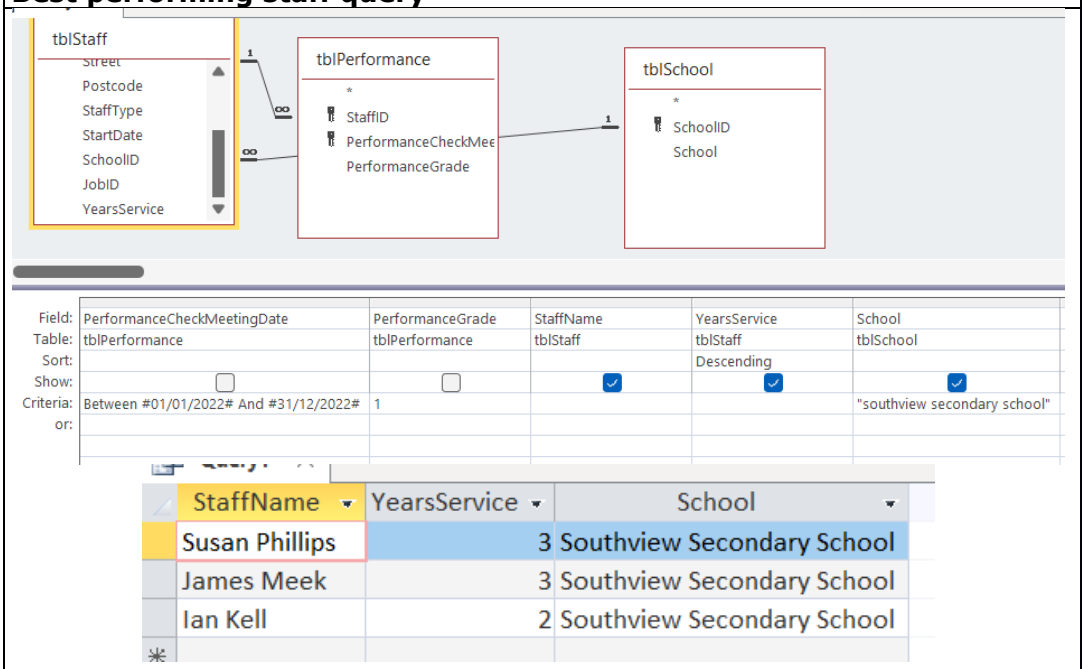
Question number	Answer		Additional Guidance	Mark
1(b)	**Add staff member form**			
	B1	Form opens a new record		1
	B2	StaffID OR StartDate disabled		1
	B3	**Three** from: • Form labels are appropriate (not database field names) • Form has meaningful title • Entry boxes on form are resized appropriately to reflect the expected data • Instructions on how to use • Asterisk on any field except StaffID AND StartDate • Combo box for Staff Type		1
	B4	Combo box source Full Time; Part Time	May also include Full	1
	B5	Button present and suitably labelled e.g. Save	May be an save icon	1
	B6	StaffID generated e.g. DMAX("StaffID","tblStaff")+1 MAX([StaffID])+1	Do not accept auto number	1
	B7	StartDate is automatically set to today's date		1
	B8	Name, telephone, street, postcode, start date, staff type would save in staff table		1
	B9	Save message would display		1
	B10	Save message would display only if record has saved		1
			Total	**10**

Question number	Answer		Additional Guidance	Mark
1(c)	**Table Structure**			
				
	C1	Use of appropriate table and field names and naming conventions		1
	C2	Performance table is present with suitable fields		1
	C3	Job table is present with suitable fields		1
	C4	School table is present with suitable fields		1
	C5	1:M relationship between Job and Staff		1
	C6	1:M relationship between Staff and Performance		1
	C7	1:M relationship between School and Staff		1
	C8	Appropriate primary key used for Job table		1
	C9	Appropriate composite key used for Performance table		1
	C10	Appropriate primary key used for School table		1
	C11	Number is used for PerformanceGrade		1
			Total	**11**

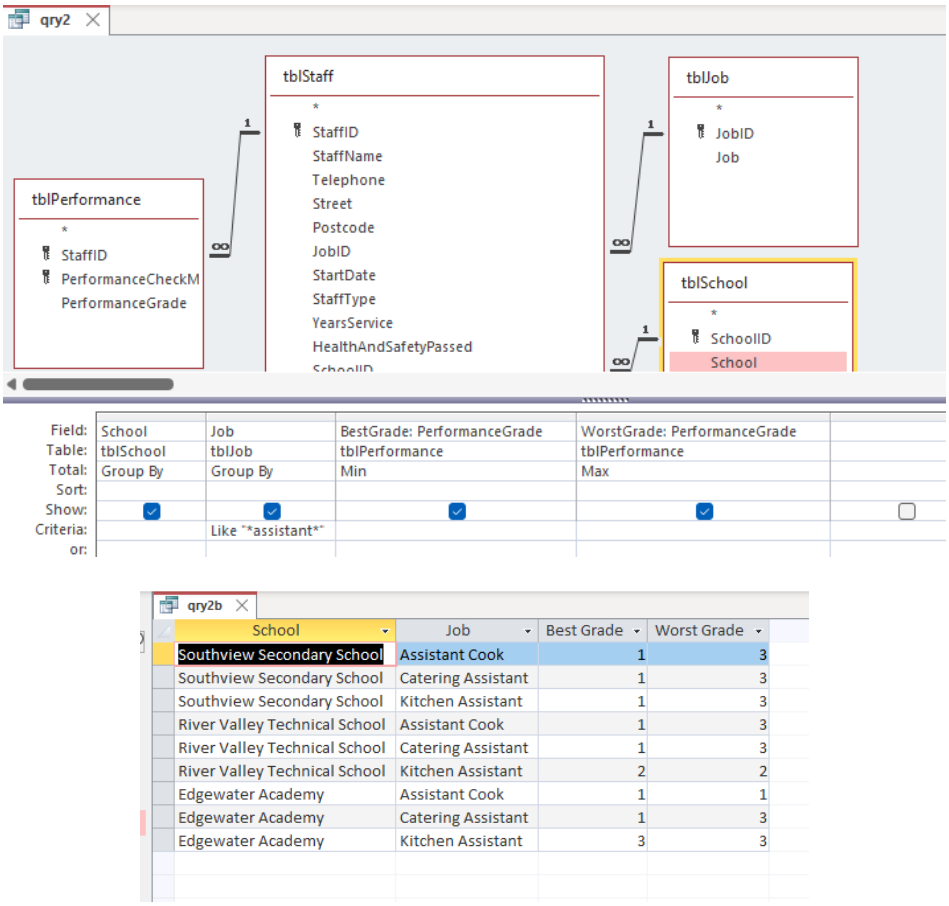
Question number	Answer		Additional Guidance	Mark
1(d)	**Import**			
	D1	Job table – 5 records		1
	D2	Performance table – 53 records		1
	D3	School table – 3 records		1
			Total	**3**

Question number	Answer	Mark
1(e)	**Indicative content** *Analysis* • Telephone number o not atomic o some of the staff have two telephone numbers in the same field. Example Tom o not all of the telephone numbers are recorded fully. Example Chloe Clarke o different types of telephone numbers some mobile some with area code. Example Tom • Staff name o not atomic o the field includes both names o not all staff have their full name recorded. Example Tom • Staff type has an anomoly o Anomoly - Full, which should be Full Time. Example Stuart Catterill • Years Service o will not always be accurate. As time passes it will be incorrect. Example Jane Austen started 28/06/2020 but only has 2 years service • 1:M relationship between the staff and telephone numbers because a member of staff may have more than one telephone number *Recommendations* • Telephone number o create a new table called tblContact. o put the StaffID in the new table as part of a composite key o put the telephone number in the new table as the other part of the composite key o delete the telephone number from the staff table o format check to accept either format of telephone number o have two fields in the staff table one for a home telephone and one for a mobile telephone o format check on each • Staff name o split the field into two, one for first name and one for last name • Years Service o delete as it can be generated • Staff type o create a table called tblStaffType o add a primary key StaffTypeID o add the two staff types as records o add StaffTypeID as a foreign key in tblStaff o select the correct StaffTypeID for each staff member o delete the field staff type o add a table lookup from tblStaffType to tblStaff	9

Level	Mark	Descriptor	
	0	No Awardable content	
Level 1	1-3	• Analysis is flawed or superficial, containing simple statements that show limited understanding of the subject matter. • Solution may contain some aspects that are appropriate, but is generally ineffective.	
Level 2	4-6	• Analysis is sound, containing minor inaccuracies or omissions, showing some understanding of the given issue. • Solution is workable but may have minor issues.	
Level 3	7-9	• Analysis is sound and developed, containing ideas that are linked together in a fluent and logical way, showing a thorough understanding of the given issue. • Solution is appropriate and workable.	
		Total for question 1	**38**

Question number	Answer	Additional Guidance	Mark
2(a)	**Best performing staff query**  		
	A1 PerformanceCheckMeetingDate • Between #1/1/2022# and #31/12/2022# • >=#1/1/2022# and <=#31/12/2022# • >#31/12/2021# and <#1/1/2023# • *2022	Allow for international date format month, day Allow 4th April to 4th December 2022 as the range	1
	A2 Performance grade 1		1
	A3 SchoolID 1 or School Southview Secondary School		1
	A4 YearsService sorted into descending order		1
	A5 Datasheet columns not truncated		1
	A6 Correct results shown	May also include records added as part of their testing.	1
		Total	**6**

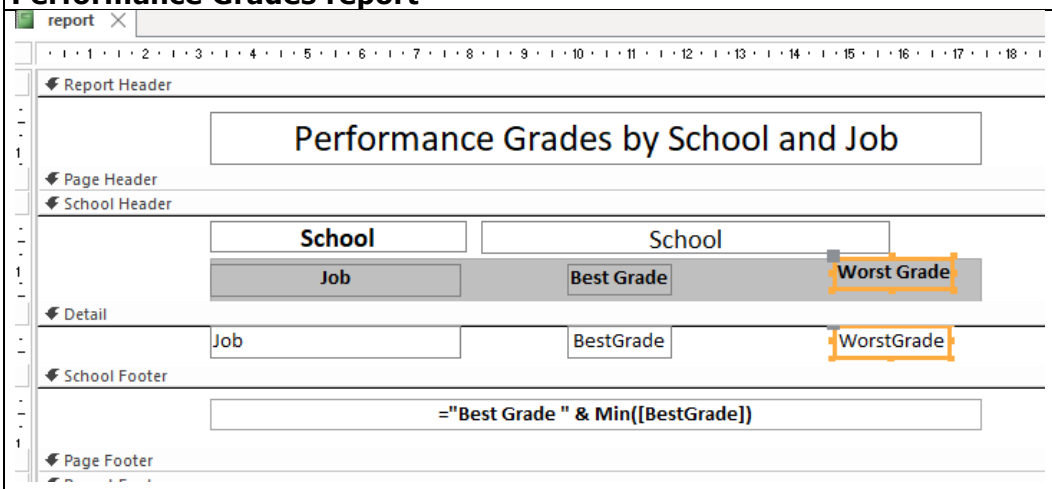
Question number	Answer	Additional Guidance	Mark
2(b)(i)	**School and performance grade queries**		



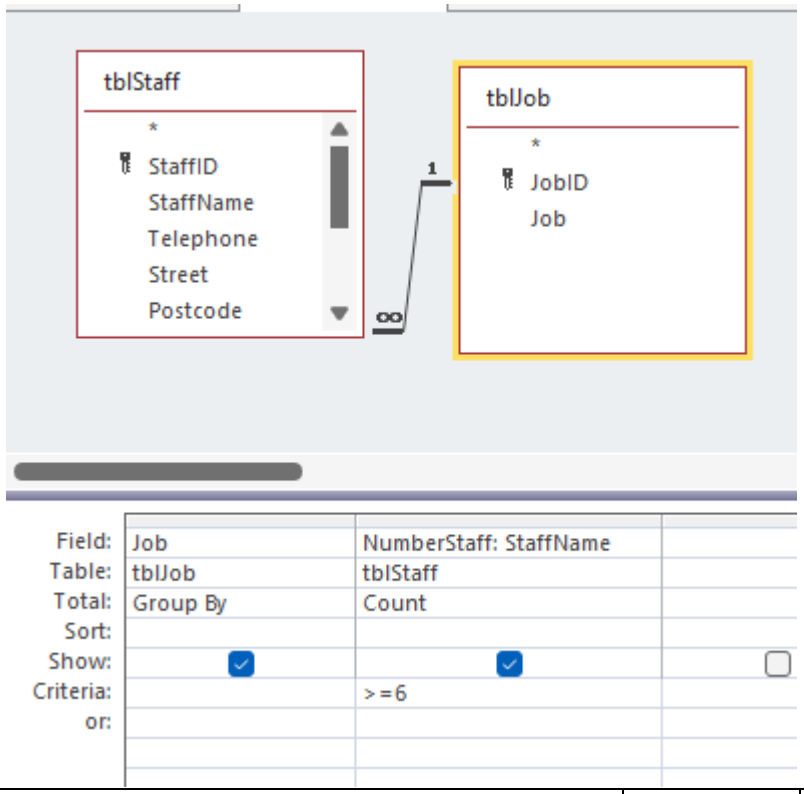
qry2b

School	Job	Best Grade	Worst Grade
Southview Secondary School	Assistant Cook	1	3
Southview Secondary School	Catering Assistant	1	3
Southview Secondary School	Kitchen Assistant	1	3
River Valley Technical School	Assistant Cook	1	3
River Valley Technical School	Catering Assistant	1	3
River Valley Technical School	Kitchen Assistant	2	2
Edgewater Academy	Assistant Cook	1	1
Edgewater Academy	Catering Assistant	1	3
Edgewater Academy	Kitchen Assistant	3	3

B1	Relevant tables added		1
B2	Criteria correct for Job or JobID • 2, 3, 4 • "*assistant*" • "Kitchen Assistant" or "Catering Assistant" or "Assistant Cook"		1
	Grades		
B3	Min(PerformanceGrade) **OR** Max(PerformanceGrade)		1
B4	Best Performance: Min(PerformanceGrade) **AND** Worst Performance: Max(PerformanceGrade)		1
		Total	**4**

Question number	Answer1		Additional Guidance	Mark
2(b)(ii)	**Performance Grades report**			
				
	Performance Grades by School and Job School Edgewater Academy Job / Best Grade / Worst Grade Assistant Cook 1 1 Catering Assistant 1 3 Kitchen Assistant 3 3 Best Grade 1 School River Valley Technical School Job / Best Grade / Worst Grade Assistant Cook 1 3 Catering Assistant 1 3 Kitchen Assistant 2 2 Best Grade 1 School Southview Secondary School Job / Best Grade / Worst Grade Assistant Cook 1 3 Catering Assistant 1 3 Kitchen Assistant 1 3 Best Grade 1			
	B5	Title is in the page or report header – **mark from Design view only** (do not accept title in detail section)		1
	B6	Title is as given OR Title is centred across the report	Ignore minor errors in spelling	1
	B7	Grouped by School– **mark from Design view only**		1
	B8	Rectangle used around Report header or Best Grade footer		1
	B9	Centre alignment used on at least one of the fields **and** the relevant value		1
	B10	Best Grade per school correct Min(BestGrade)		1
	B11	Best Grade per school in the correct footer	Best grade must be the correct calculation	1

	B12	Report and formatting are as given		1
			Total	**8**
			Total for question	**18**

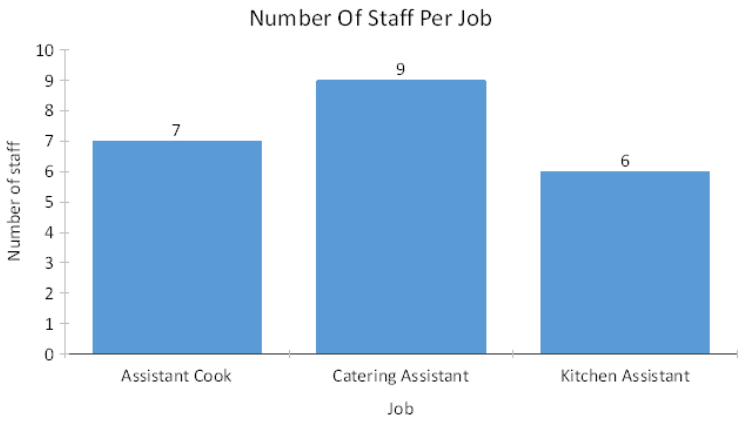
Question number	**Answer**		**Additional Guidance**	**Mark**
3a	**Query for Chart** 			
	A1	No inappropriate fields included		1
	A2	Number of staff calculated correctly e.g. • Count(StaffName)	Any field is appropriate for the count	1
	A3	Criteria correct for number of staff • >=6 • >5		1
	A4	Generated field has a suitable field name		1
			Total	**4**

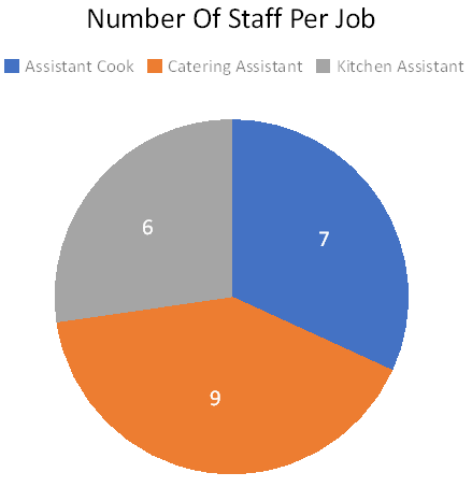
Question number	Answer		Additional Guidance	Mark
3b	**Chart**			

Chart data

Relationships | qryChart | rptChar

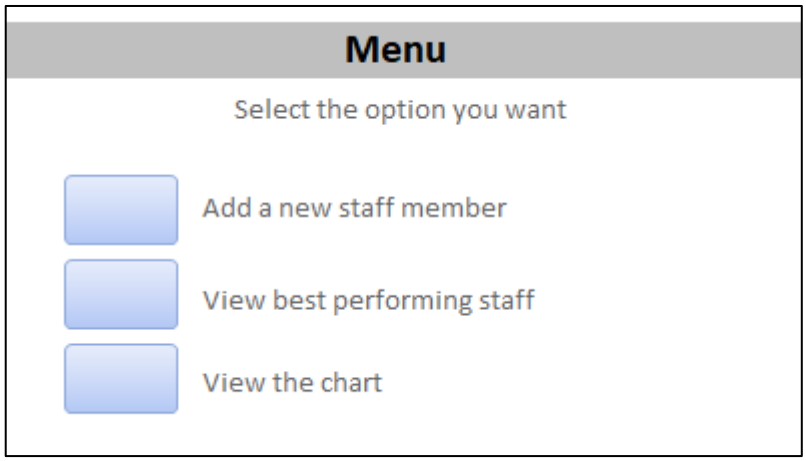
Job	NumberStaff
Assistant Cook	7
Catering Assistant	9
Kitchen Assistant	6





B1	Bar/column/pie chart created		1
B2	Meaningful chart title used		1
B3	Axis/segments shows job (e.g. Assistant Cook etc)		1
B4	Bar/column • At least one axis has suitable label (e.g. Number of Staff OR Job) Pie • Suitable legend		1
B5	Bar/column • Axis contains suitable scale **AND/OR** • Data values are shown Pie • Data values are shown		1

	B6	Chart is fit for purpose Bar/column • No legend • Appropriate sizing of elements on page (e.g. title larger than axis labels, data labels) Pie • Appropriate sizing of elements on page (e.g. title larger than legend labels, data labels)		1
			Total	**6**
			Total for question 3	**10**

Question number	Answer		Additional Guidance	Mark
4	**Dashboard**  			
	A1	Appropriate heading and 3 appropriately labelled buttons	Button labels must be written to help the user e.g. **not** Open query 2(a)	1
	A2	Data entry form from 1(b) would open		1
	A3	Query from 2(a)(i) would run		1
		Grade query		
	A4	Message box with appropriate message would appear when button clicked	Must be a single button	1
	A5	Both options work correctly • Chart would open in print preview • Message **Operation cancelled** appears		1
			Total	**5**
			Total for question 4	**5**

Question number	Answer	Mark

5	**Indicative content**
	Note: Analysis and recommendations must be based on the content of Figure 2.
	
	Analysis
	• The staff table already contains
	  ○ Staff name
	  ○ Staff date
	  ○ JobID. The job can be determined already from the JobID
	• The performance table already contains
	  ○ the meeting date
	  ○ grades that have been previously achieved
	• The database does not currently store
	  ○ Performance areas and grades
	  ○ Comments
	Recommendations
	• tblPerformance needs to be extended.
	  ○ These fields need adding to store the individual performance grades
	  ▪ Time Management
	  ▪ Verbal Communication
	  ▪ Team Work
	  ▪ General Performance Comments
	  ○ Performance grade awarded no longer needs to be stored as it is calculated as the average of the grades awarded (rounded up)
	  ○ No new data is needed to be stored to find the performance grade awarded the previous year. This can be generated using Max
	  ○ No new data is needed to be stored to determine how the grade compares to the previous grade. This can be generated and compared using a if statement
		9

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Level 3	7-9	• Analysis is sound and developed, containing ideas that are linked together in a fluent and logical way, showing a thorough understanding of the given issue. • Solution is appropriate and workable.
		Total for question 5 | **9**

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