Task 1: database design and development (part A)

Greenhands is a gardening company which employs staff to do jobs for its customers. The company keeps its staff details on paper cards.

Staff ID	DS021	**Address**	12 Leaf Avenue
Forename	Derek		Farmridge
Surname	Strimmer		Bowness
Top Skill (lawn, hedge or weeds)	Weeds	**Customer Rating** (1-10)	6

When requesting work to be completed in their garden, customers fill in a Customer Job Details form and send it to Greenhands. An example of the form is shown below.

Greenhands Gardening Services

Customer Job Details

Name Paula Smith

Address 49 Daisy Drive, Grangemouth

Post Code FA12 8HG

Contact Telephone Number 07973 276455

Task (please tick one box only)

☐ Lawn Mowed
☑ Hedge Cut
☐ Weeds Pulled

For Office Use Only
Job Information

Staff ID _____

Date _____

Time _____

Job ID _____

Please return to:
Greenhands Ltd, 12 High Street, Falkirk

The office staff complete the Customer Job Details Form by contacting the customer to arrange a date and time for the task. Staff members are selected for each job by matching their 'top skill' to the customer's requested task.

1a   Greenhands wishes to create a database to store its staff and job details.
      Complete the job details in the analysis of inputs table below:

(3 marks)

Staff details:	Job details:
Staff ID Staff Forename Staff Surname Address Top Skill Customer Rating	Job ID Name Address Post Code Contact Telephone number Task Date Time Staff ID

1b   Complete the data dictionary for the Staff entity.   **(5 marks)**

Entity name: Staff

Attribute name	Key	Type	Size	Required	Validation
staffID	PK	text	5	Y	length = 5
forename		text	20	Y	
surname		text	20	Y	
address		text	50	Y	
topSkill		text	5	Y	Restricted choice Lawn, Hedge, Weeds
custRating		number		N	Range Check >=1 And <=10

Task 1: database design and development (part B)

1c Your teacher or lecturer will provide you with a partially completed database file.

Using the data dictionary below complete the relational database by:

♦ creating a new table to store the job details
♦ adding all validation to the job entity
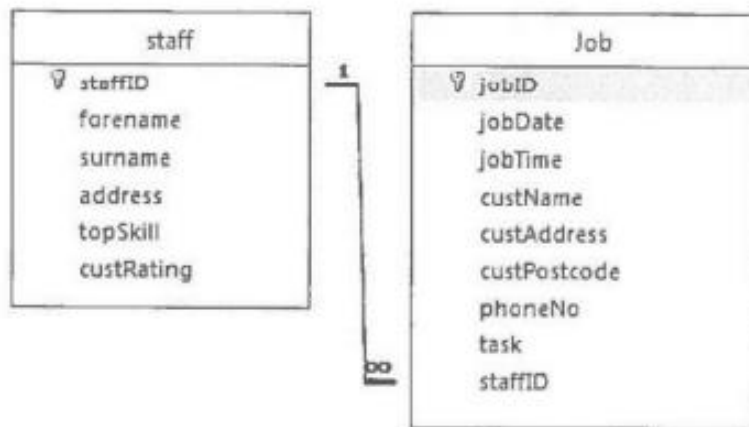♦ creating a relationship between the two tables

(5 marks)

Entity name: Staff					
Attribute name	**Key**	**Type**	**Size**	**Required**	**Validation**
staffID	PK	text	5	Y	length = 5
forename		text	20	Y	
surname		text	20	Y	
address		text	50	Y	
topSkill		text	5	Y	restricted choice: lawn, hedge, weeds
custRating		number		N	Range >= 1 and <= 10

Entity name: Job					
Attribute name	**Key**	**Type**	**Size**	**Required**	**Validation**
jobID	PK	number		Y	
jobDate		date		Y	
jobTime		time		Y	Range >= 9:00 and <= 18:00
custName		text	40	Y	
custAddress		text	50	Y	
custPostcode		text	8	Y	
phoneNo		text	11	N	
task		text	12	Y	restricted choice: Lawn Mowed, Hedge Cut, Weeds Pulled
staffID	FK	text	5	Y	existing staffID from Staff table

Print evidence to show that you have:

♦ created a new table to store the job details
♦ added all validation to the job entity
♦ created a relationship between the two tables

Evidence:

Job table relationships:

Job Table fields:

Field Name	Data Type
jobID	Number
jobDate	Date/Time
jobTime	Date/Time
custName	Short Text
custAddress	Short Text
custPostcode	Short Text
phoneNo	Short Text
task	Short Text
staffID	Short Text

JobID validation

Format	Short Date
Input Mask	
Caption	
Default Value	
Validation Rule	Len([jobDate])>0
Validation Text	Job Date is required
Required	Yes
Indexed	No
IME Mode	No Control
IME Sentence Mode	None
Text Align	General
Show Date Picker	For dates

jobTime validation

Format	Short Time
Input Mask	
Caption	
Default Value	
Validation Rule	[jobTime]>=#09:00:00# And <=#18:00:00#
Validation Text	Job time must be between 9AM and 6PM
Required	Yes
Indexed	No
IME Mode	No Control
IME Sentence Mode	None
Text Align	General
Show Date Picker	For dates

custName validation

Field Size	40
Format	
Input Mask	
Caption	
Default Value	
Validation Rule	Len([custName])>0
Validation Text	Name is required
Required	Yes
Allow Zero Length	No
Indexed	No
Unicode Compression	Yes
IME Mode	No Control
IME Sentence Mode	None
Text Align	General

custAddress validation

Field Size	50
Format	
Input Mask	
Caption	
Default Value	
Validation Rule	Len([custAddress])>0
Validation Text	Address is required
Required	Yes
Allow Zero Length	No
Indexed	No
Unicode Compression	Yes
IME Mode	No Control
IME Sentence Mode	None
Text Align	General

custPostcode validation

Field Size	8
Format	
Input Mask	
Caption	
Default Value	
Validation Rule	Len([custPostcode])>0
Validation Text	Postcode is required
Required	Yes
Allow Zero Length	No
Indexed	Yes (Duplicates OK)
Unicode Compression	Yes
IME Mode	No Control
IME Sentence Mode	None
Text Align	General

phoneNo validation

Field Size	11
Format	
Input Mask	
Caption	
Default Value	
Validation Rule	
Validation Text	
Required	No
Allow Zero Length	Yes
Indexed	No
Unicode Compression	Yes
IME Mode	No Control
IME Sentence Mode	None
Text Align	General

Task validation

Field Size	12
Format	
Input Mask	
Caption	
Default Value	
Validation Rule	Len([task])>0
Validation Text	Task is required
Required	Yes
Allow Zero Length	No
Indexed	No
Unicode Compression	Yes
IME Mode	No Control
IME Sentence Mode	None
Text Align	General

staffID validation

Field Size	5
Format	
Input Mask	
Caption	
Default Value	
Validation Rule	Len([staffID])>0
Validation Text	Staff ID is required
Required	Yes
Allow Zero Length	No
Indexed	Yes (Duplicates OK)
Unicode Compression	Yes
IME Mode	No Control
IME Sentence Mode	None
Text Align	General

StaffID lookup

Display Control	Combo Box
Row Source Type	Table/Query
Row Source	SELECT [staff].[staffID] FROM staff;

1d   Staff member DS021 has moved house recently.

Implement an SQL statement that will change the address of this member of staff to:

99 Willow Way, Falkirk, FA87 6FE

(2 marks)

Print evidence of your SQL statement and the Staff table (clearly showing the new address) once the SQL statement has been implemented.

Field:	address	staffID	
Table:	Staff	Staff	
Update To:	'99 Willow Way, Falki		
Criteria:		"DS021"	
or:			

Job   Staff   Staff Query2

```
UPDATE Staff SET Staff.address = '99 Willow Way, Falkirk, FA87 6FE'
WHERE (((Staff.staffID)="DS021"));
```

Staff						
staffID	forename	surname	address	topSkill	custRating	Click to Add
DS001	Alison	Duncan	44 Main Street, Falkirk, FK47 5RT	lawn	10	
DS003	Jessica	Lawrie	18 Stevenson view, Denny, FK76 6TU	hedge	9	
DS004	Peter	Falconer	21/4 Kier Place, Alva, ST12 7TR	lawn	8	
DS007	Ryan	MacGowan	122 Moray Place, Falkirk, FK93 5RD	hedge	7	
DS010	Martyn	Crawford	5/2 McLeod Street, Denny, FK77 3KT	hedge	6	
DS014	Brenda	Learmonth	42 High Street, Alloa, FK 82 6GF	hedge	6	
DS016	Keegan	Cuthbert	9 Thames Rise, Falkirk, FK99 2SD	lawn	5	
DS019	Ruksana	Ali	62 Riverside drive, Alva, FK71 2FS	lawn	4	
DS021	Derek	Strimmer	99 Willow Way, Falkirk, FA87 6FE	weeds	6	
DS026	Artur	Luts	18 Moat Street, Denny, FK92 6GH	hedge	4	
DS027	Signy	Saar	2 Glasgow Road, Falkirk, FK70 8HR	lawn	3	
DS028	Claudia	Silva	102 Bannockburn drive, Alva, FK91 4RE	weeds	2	
DS055	Brigitta	Corduneanu	92 Evergreen drive, Alva, FK 90 7FG	lawn	2	
DS061	Susan	Brown	62 Riverside drive, Alva, FK71 2FS	hedge	1	
DS063	Chris	Kelly	2 Glasgow Road, Falkirk, FK70 8HR	weeds	1	
DS066	Imad	Khan	42 High Street, Alloa, FK 82 6GF	lawn	1	