## Exercise 4– Data Dictionary

Task 1
The online registration form used by new customers of Trends is shown below. Identify two types of validation check used by Trends and explain the importance of each.
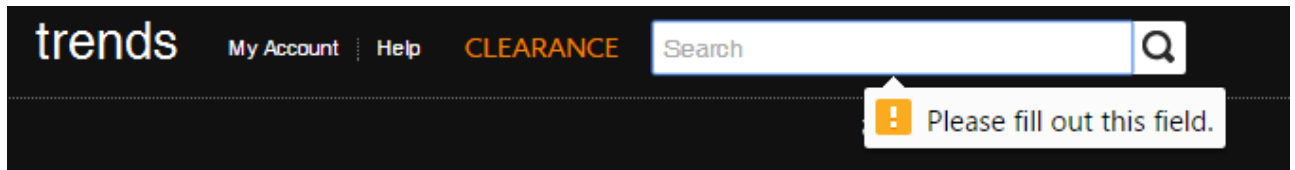


1.

2.

Task 2

The Trends website provides a search facility that enables customers to search for a particular item.



Identify the type of validation check used with the search facility and explain its importance.

Task 3

Admin staff can use software tools to alter the details of the online shopping basket for the Trends website.



Identify the type of validation check illustrated in this case and explain its importance.
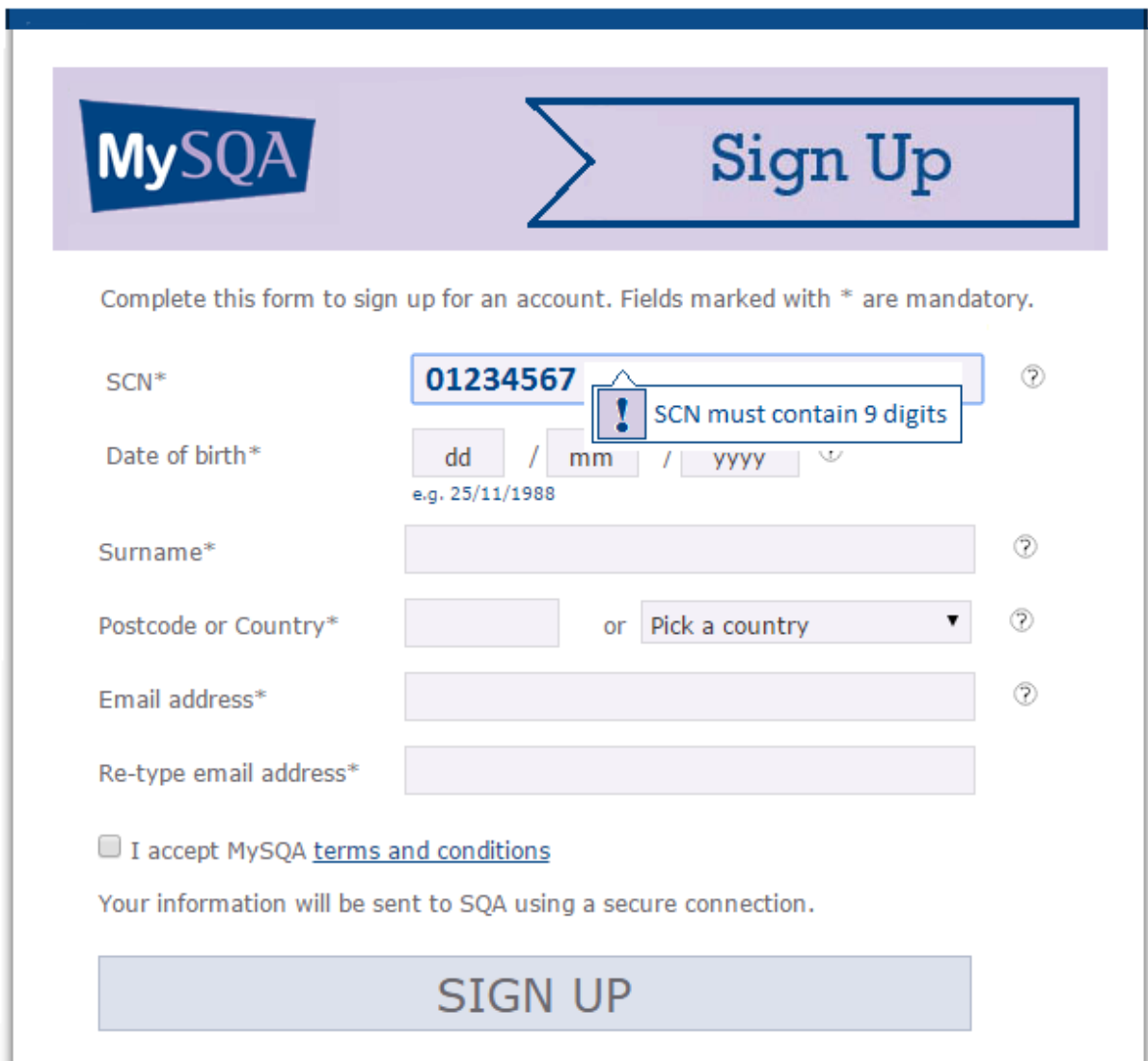
1.


2.


Task 4

MySQA is a service provided by the Scottish Qualification Authority. Candidates who sign up for MySQA will receive their exam results by email and text message. The Sign Up form is shown below.

Identify three types of validation check used in the Sign Up form and explain the importance of each.

1.


2.


3.

Complete this form to sign up for an account. Fields marked with * are mandatory.

SCN* `01234567` SCN must contain 9 digits

Date of birth* dd / mm / yyyy
e.g. 25/11/1988

Surname*

Postcode or Country* or Pick a country ▼

Email address*

Re-type email address*

☐ I accept MySQA terms and conditions

Your information will be sent to SQA using a secure connection.

SIGN UP

## Task 5

The data entry form shown below is used by schools to enter estimate grade for candidates being presented for SQA qualifications.

| QualCode | C716 | Level | N5 |
|---|---|---|---|
| Title | Computing Science | | |
| SCN | FirstName | LastName | Estimate |
| 023456789 | Jane | Jones | 4 |
| 023456821 | Liam | Lamont | 6 |
| 023457004 | Siraaj | Zia | 0 |
| 023457122 | Mo | Yuan | |

Estimate must be grades 1 to 9

Identify the type of validation check illustrated in this case and explain its importance.

Task 6

SQA uses a relational database to store details of candidates, qualifications and results in three separate entities:

CANDIDATE  (SCN, FirstName, LastName, DOB, Address, School)
QUALIFICATION  (QualCode, Title, Level)
RESULT  (ResultID, SCN*, QualCode*, Date, Estimate, FinalGrade)

Explain why it is not possible to create a record in the Result table before first creating a record in **both** the Candidate and Qualification tables.

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Task 7

MovieWatch allows digital TV viewers to rent streamed movies. Details of the rentals and members are stored in two separate linked tables. The field Member ID in the Rental table is foreign key that is used to establish a relationship between the Rental and Member tables.

Use the data in these tables to explain the importance of the foreign key in ensuring referential integrity.

| Rental | | | | | |
|---|---|---|---|---|---|
| **Rental Code** | **Member ID** | **Movie Code** | **Rental Date** | **Number Nights** | **Cost** |
| 172634 | 003 | M101 | 01/07/2015 | 3 | £5.99 |
| 172635 | 002 | M104 | 01/07/2015 | 2 | £2.99 |

| Member | | | | |
|---|---|---|---|---|
| **Member ID** | **First Name** | **Last Name** | **Town** | **Phone** |
| 001 | Marge | McGregor | Ayr | 07123456789 |
| 002 | Karl | Killen | Saltcoats | 07798765432 |
| 004 | Jess | Jeffries | Ardrossan | 07912345671 |

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Task 8

An online photo gallery stores details of photos displayed on the site in two separate linked tables: ALBUM and PHOTO.

Use the data in these tables to explain the importance of the foreign key in ensuring referential integrity.

| Album | | | | |
|---|---|---|---|---|
| Album ID | Name | Category | Description | Number Photos |
| 01 | BMW Cars | Cars | Photos of BMW cars | 25 |
| 02 | Glenrothes | Fife | Photos from around Glenrothes | 4 |
| 03 | Newark Castle | Castles | Photos of Scottish castles | 17 |

| Photo | | | |
|---|---|---|---|
| Photo ID | Album ID | Description | Image |
| 23 | 02 | Thirsty Hippos | hippos_pmckay.jpg |
| 24 | 20 | Glenrothes Irises | irises_mharris.jpg |

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Task 9

Trends is an online clothing store. Details of items for sale, purchases and customers are stored in three linked tables: ITEM, PURCHASE and CUSTOMER.

    ITEM  (Item ID, description, colour, size, price)
    PURCHASE  (OrderNo, CustomerID*, ItemID*, date, quantity)
    CUSTOMER  (CustomerID, name, address, email)

Before making a purchase, customer must first register their details. Once the details have been registered, they are stored in the Customer table.

Explain why it is necessary for customers to register their details *before* making a purchase.

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