Technical Task

Please write SQL queries to answer the following questions. The tables you will need are provided below.

Either via comments in the code or separately, please explain your code - in instances where any code is incorrect, comments will help support your answers.

**Question 1:**

Write a query that orders each type of fruit by the total sales value (£) they made in May 2022, from best-seller to worst.

**Question 2:**

Which fruits made less money in 2022 than in 2021?

*After this you do not need FRUIT\_SALES or FRUITS tables*

*From here on, please use PAGE\_VIEWS, SESSIONS, PURCHASES and CUSTOMERS tables.*

**Question 3:**

What is the average age of everyone that made a purchase in March 2020, to the nearest full year?

**Question 4:**

Write a query to show which channel was responsible for the 2nd largest amount of money made each year, and how much money this channel brought in that year.

**Question 5:**

What percentage of product page views were immediately followed by a cart page view?

Below are the 6 tables you should use to answer the above questions. You have been given some example rows of data - please assume the tables contain more data than what you are shown below.

Table: FRUIT\_SALES

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| ORDER\_NUMBER (primary key)  NUMBER(38,0) | CUSTOMER\_ID  NUMBER(38,0) | FRUIT\_ID  NUMBER(38,0) | ORDER\_DATE  DATE | UNIT\_VALUE  NUMBER(38,2) | TOTAL\_SALES\_VALUE  NUMBER(38,2) | TOTAL\_UNITS  NUMBER(38,0) |
| 986432 | 34562345 | 23 | 01/05/2021 | 0.3 | 6 | 20 |
| 120721 | 56789345 | 47 | 09/06/2022 | 0.4 | 160 | 400 |
| 971234 | 98723478 | 30 | 04/05/2022 | 0.25 | 12.5 | 50 |
| 892137 | 9723469 | 23 | 30/07/2021 | 0.4 | 40 | 100 |
| … | … | … | … | … | … | … |

Table: FRUITS

|  |  |
| --- | --- |
| FRUIT\_ID (primary key)  NUMBER(38,0) | FRUIT\_NAME  VARCHAR(16777216) |
| 22 | BANANA |
| 23 | ORANGE |
| 24 | STRAWBERRY |
| 25 | WATERMELON |
| … | … |

Table: PAGE\_VIEWS

*A page view is when a user visits a particular page on a website. Each time a user visits a new page, this will generate a new page view e.g. if within a session a user clicks on a product on the homepage, and this takes them to a product page, they have had two page views (one of the homepage, and one of the product page). This table gives one row per page view (unique identifier - page view ID).*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| PAGE\_VIEW\_ID (primary key)  NUMBER(38,0) | USER\_ID  VARCHAR(16777216) | PAGE\_VIEW\_TIMESTAMP  TIMESTAMP\_NTZ(9) | PAGE\_URL  VARCHAR(16777216) | PAGE\_CATEGORY  VARCHAR(16777216) |
| 12345678 | RTYUIO4567 | 2022-11-10T21:34:33Z | https://www.notonthehighstreet.com/cards-wrap/cards/shop-by-occasion/new-home | category |
| 345678 | ZXCVBN34 | 2023-04-10T10:12:43Z | https://www.notonthehighstreet.com/cart | cart |
| 9876 | ZXCVBN34 | 2023-04-10T10:11:19Z | https://www.notonthehighstreet.com/overthec/product/you-re-in-letterpress-new-home-card?referredBy=plp | product |
| 4567890 | FGHJKL9 | 2023-04-13T20:00:59Z | https://www.notonthehighstreet.com/ | homepage |
| … | … | … | … | … |

Table: SESSIONS

*A session here describes a user’s actions taken within a period of time whilst visiting the site. For example, a user arrives on the site, visits multiple pages, and makes a purchase - this is one session. If the same user then comes back to the site later on, this is a separate session.*

|  |  |  |  |
| --- | --- | --- | --- |
| SESSION\_ID (primary key)  VARCHAR(16777216) | SESSION\_DATE  DATE | CHANNEL  VARCHAR(16777216) | PURCHASE\_ID  NUMBER(38,0) |
| KH4J235WE | 01/09/2022 | paid social | 5689123487612 |
| 9123BHJSAD87 | 02/09/2022 | ppc | 6721348923478 |
| QWEGUY234 | 02/09/2022 | paid social |  |
| OIHADF87234 | 30/09/2022 | affiliates | 912465643323 |
| … | … | … | … |

Table: PURCHASES

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| PURCHASE\_ID (primary key)  NUMBER(38,0) | PURCHASE\_DATE  DATE | CUSTOMER\_ID  NUMBER(38,0) | UNIT\_VALUE\_POUNDS  NUMBER(38,2) | UNITS  NUMBER(38,0) |
| 1234123481256 | 10/09/2022 | 456 | 10.95 | 1 |
| 7893425367231 | 05/10/2021 | 101 | 20 | 2 |
| 2173489238923 | 01/01/2023 | 676 | 5.99 | 1 |
| 9871234568213 | 19/07/2023 | 101 | 30 | 2 |
| … | … | … | … | … |

Table: CUSTOMERS

|  |  |  |  |
| --- | --- | --- | --- |
| CUSTOMER\_ID (primary key)  NUMBER(38,0) | AGE  NUMBER(38,0) | FIRST\_NAME  VARCHAR(16777216) | LAST\_NAME  VARCHAR(16777216) |
| 100 | 30 | Erik | Bolton |
| 101 | 81 | Diane | Stokes |
| 102 | 23 | Fatima | Hendricks |
| 103 | 45 | Kevin | Lang |
| … | … | … | … |