**Data Analysis and Visualization -Practice -3**

**Exercise 1**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 2 | A | B | C- complete column C using only IF formula |  |
| 3 | Grade 60 or higher = Pass |  |  |  |
| 4 | Grade less than 60 = Fail |  |  |  |
| 5 |  |  |  |  |
| **6** | **Name** | **Grade** | **Pass/Fail** |  |
| 7 | Adi | 98 | Pass | =IF(B7>=60,"Pass","Fail") |
| 8 | Beni | 55 | Fail | =IF(B8>=60,"Pass","Fail") |
| 9 | Charlie | 15 | Fail | =IF(B9>=60,"Pass","Fail") |
| 10 | Dani | 60 | Pass | =IF(B10>=60,"Pass","Fail") |

**Exercise 2**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| The following table is an extract from an accounting system that contains four journal entries |  |  |  |  |
| Check if column A's cells match column B's cell |  |  |  |  |
| if match - return "match", otherwise return "no match" |  |  |  |  |
|  |  |  |  |  |
|  | A | B |  |  |
|  | Debit | Credit | **Same value?** |  |
| Journal Entry 1 | $94.00 | $94.00 | match | =IF(C7=D7,"match","no match") |
| Journal Entry 2 | $109.00 | $109.00 | match | =IF(C8=D8,"match","no match") |
| Journal Entry 3 | $85.00 | $85.50 | no match | =IF(C9=D9,"match","no match") |
| Journal Entry 4 | $12.00 | $12.00 | match | =IF(C10=D10,"match","no match") |

**Exercise 3**

|  |  |  |  |
| --- | --- | --- | --- |
| The table below contains details of high school students’ names and ages, use IF formula to complete columns D  and E |  |  |  |
| **If the student's age is 16 or above, he/she is eligible for a driver's license. Check if they are eligible or not.**  **Answer in column D** |  |  |  |
|  |  |  |  |
| **If the student is younger than 18 years old he/she is a minor. Check whether the student is a minor or not.**  **for Minor return "Minor" and non minor = "Adult" anwswer in column E** |  |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  |  | Column D |  | Column E |  |
| **Number** | **Name** | **Age** | **Driver Licence** |  | **Minor/Adult?** |  |
| 1 | Arik | 16 | Yes | =IF(D9>=16,"Yes","No") | Minor | =IF(D9<18,"Minor","Adult") |
| 2 | Ben | 18 | Yes | =IF(D10>=16,"Yes","No") | Adult | =IF(D10<18,"Minor","Adult") |
| 3 | Cermit | 15.5 | No | =IF(D11>=16,"Yes","No") | Minor | =IF(D11<18,"Minor","Adult") |
| 4 | Dan | 19 | Yes | =IF(D12>=16,"Yes","No") | Adult | =IF(D12<18,"Minor","Adult") |
| 5 | Eliko | 18 | Yes | =IF(D13>=16,"Yes","No") | Adult | =IF(D13<18,"Minor","Adult") |
| 6 | Fage | 13 | No | =IF(D14>=16,"Yes","No") | Minor | =IF(D14<18,"Minor","Adult") |
| 7 | George | 18 | Yes | =IF(D15>=16,"Yes","No") | Adult | =IF(D15<18,"Minor","Adult") |
| 8 | Herzl | 17 | Yes | =IF(D16>=16,"Yes","No") | Minor | =IF(D16<18,"Minor","Adult") |

**Exercise 4**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| An A+ student gets 100% scholarship and non A+ gets 50% scholarship as shown in the table below: | | | | |  |  |
|  | | | | | Amount |  |
| A+ | | | | | 100% |  |
| A- | | | | | 50% |  |
|  | | | | |  |  |
| The following table contains the names of students from 2024 class. | | | | |  |  |
| Use IF function to calculate the scholarships' amounts each of them will get | | | | |  |  |
|  |  |  | **Answer without cells references** |  | | | |
| **Name** | **GPA** | **Tuition** | **Scholarship** |  | | | |
| Sam | A+ | 46,866 | 46,866 | =IF(B11="A+",100%,50%)\*C11 | | | |
| Ari | A- | 33,495 | 16,748 | =IF(B12="A+",100%,50%)\*C12 | | | |
| Xena | A- | 35,087 | 17,544 | =IF(B13="A+",100%,50%)\*C13 | | | |
| Gabe | A+ | 42,603 | 42,603 | =IF(B14="A+",100%,50%)\*C14 | | | |
| Eliko | A- | 36,971 | 18,486 | =IF(B15="A+",100%,50%)\*C15 | | | |
| Daniela | A+ | 41,286 | 41,286 | =IF(B16="A+",100%,50%)\*C16 | | | |
| Rotem | A- | 37,732 | 18,866 | =IF(B17="A+",100%,50%)\*C17 | | | |

**Exercise -5**

|  |  |  |
| --- | --- | --- |
| The school decided to use the following grade system: |  |  |
| Grade higher or equal to 80 - Excellent |  |  |
| Grade higher or equal to 60 but lower than 80 - Good |  |  |
| Grade lower than 60 - Failed |  |  |
|  |  |  |
| Complete the following: |  |  |
|  |  |  |
| **Student name** | **Grade** | **Failed/Good/Excellent** |
| John | 78 | Good |
| Sarah | 85 | Excellent |
| Michael | 44 | Failed |
| Deborah | 61 | Good |

Exercise:6

Create an If function to calculate whether each movie was a flop or a success.  Use the following criteria:

* If the profit was less than 100,000,000 then the movie is a flop
* Otherwise the movie is a success

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Movie** | **Budget ($)** | **World Gross ($)** | **Profit** | **Flop or Not?** |
| Spider-Man 3 | 25,80,00,000 | 88,74,36,184 | 62,94,36,184 | Success |
| King Kong (2005) | 20,70,00,000 | 55,30,80,025 | 34,60,80,025 | Success |
| Superman Returns | 20,40,00,000 | 39,10,81,192 | 18,70,81,192 | Success |
| Spider-Man 2 | 20,00,00,000 | 78,40,24,485 | 58,40,24,485 | Success |
| Titanic | 20,00,00,000 | 1,83,54,00,000 | 1,63,54,00,000 | Success |
| Chronicles of Narnia, The | 18,00,00,000 | 74,88,06,957 | 56,88,06,957 | Success |
| Wild Wild West | 17,50,00,000 | 21,77,00,000 | 4,27,00,000 | Flop |
| Evan Almighty | 17,50,00,000 | 12,06,98,890 | -5,43,01,110 | Flop |
| Waterworld | 17,50,00,000 | 26,42,46,220 | 8,92,46,220 | Flop |
| Terminator 3: Rise of the Machines | 17,00,00,000 | 43,30,58,296 | 26,30,58,296 | Success |
| Polar Express, The | 17,00,00,000 | 29,65,96,043 | 12,65,96,043 | Success |
| Van Helsing | 17,00,00,000 | 30,01,50,546 | 13,01,50,546 | Success |
| Shrek the Third | 16,00,00,000 | 73,30,12,359 | 57,30,12,359 | Success |
| Poseidon | 16,00,00,000 | 18,16,74,817 | 2,16,74,817 | Flop |
| Alexander | 15,50,00,000 | 16,72,97,191 | 1,22,97,191 | Flop |
| Pearl Harbor | 15,15,00,000 | 45,05,00,000 | 29,90,00,000 | Success |
| Harry Potter and the Goblet of Fire | 15,00,00,000 | 89,22,13,036 | 74,22,13,036 | Success |
| Harry Potter and the Order of the Phoenix | 15,00,00,000 | 82,28,28,538 | 67,28,28,538 | Success |
| Mission: Impossible III | 15,00,00,000 | 39,75,01,348 | 24,75,01,348 | Success |
| Troy | 15,00,00,000 | 49,72,98,577 | 34,72,98,577 | Success |

Exercise:7

**IF** function to calculate the parking charge.  Use the following to help you:

* If the hours parked are less than or equal to 2 hrs, display a message saying **Free parking**
* If the hours are greater, the parking fee is **Hours Parked** \* **Parking Charge**

|  |  |  |
| --- | --- | --- |
| **Pesko Store Car Parking Charges** | | |
|  |  |  |
| **Car Reg** | **Hours Parked** | **Parking Charge** |
| DA12 NEJ | 0.5 | Free parking |
| MA16 BVW | 4.0 | £12.00 |
| DD11 SFD | 1.5 | Free parking |
| MA14 NHG | 2.0 | £6.00 |
| YK14 BHH | 5.5 | £16.50 |
| DY15 FLB | 3.0 | £9.00 |
| MM12 SWL | 0.5 | Free parking |
|  |  |  |
| If park <= 2 hrs, no fee (message) | | |
| Anything more pay £2 per hour | | |
|  |  |  |
| Threshold | 2 |  |
| Parking fee | £2.00 |  |