Question 1:

Create a Sheet for Payroll (Employee Number, Employee Name, Age, Designation, Hourly Worked(Rs.500), Gross Pay, Net Pay) and enter at-least 20 records.

Answer:

FF PVT. LTD. Payroll System									
No	Name	Age	Designation	Hourly Worked	Hourly Rate	Gross Pay	Social Security Tax	Net Pay	Eligible For Pension
1	Atul	30	Data Entry	178	500	89000	5340	Rs.83,660.00	No
2	Mayur	35	Manager	166	500	83000	4980	Rs.78,020.00	No
3	Sami	62	Web Designer	162	500	81000	4860	Rs.76,140.00	Yes
4	Ujjwal	53	Programmer	159	500	79500	4770	Rs.74,730.00	No
5	Mahesh	40	Data Entry	164	500	82000	4920	Rs.77,080.00	No
6	Sumit	42	Web Desinger	169	500	84500	5070	Rs.79,430.00	No
7	Mihir	49	Manager	170	500	85000	5100	Rs.79,900.00	No
8	Arjun	51	IT Head	158	500	79000	4740	Rs.74,260.00	No
9	Ram	39	IT Head	161	500	80500	4830	Rs.75,670.00	No
10	Lakshmn	50	General Manager	163	500	81500	4890	Rs.76,610.00	No
11	Bharat	63	Web Developer	166	500	83000	4980	Rs.78,020.00	Yes
12	Sita	62	HR	165	500	82500	4950	Rs.77,550.00	Yes
13	Ravan	39	IT Manager	167	500	83500	5010	Rs.78,490.00	No
14	Yash	38	Data Entry	166	500	83000	4980	Rs.78,020.00	No
15	Suresh	45	Sales Manager	180	500	90000	5400	Rs.84,600.00	No
16	Nimesh	51	Employee	174	500	87000	5220	Rs.81,780.00	No
17	Minesh	40	Employee	170	500	85000	5100	Rs.79,900.00	No
18	Manish	61	Supervisor	169	500	84500	5070	Rs.79,430.00	Yes
19	Mehul	41	Web Designer	170	500	85000	5100	Rs.79,900.00	No
20	Dhoni	59	Web Developer	166	500	83000	4980	Rs.78,020.00	No

Formula:

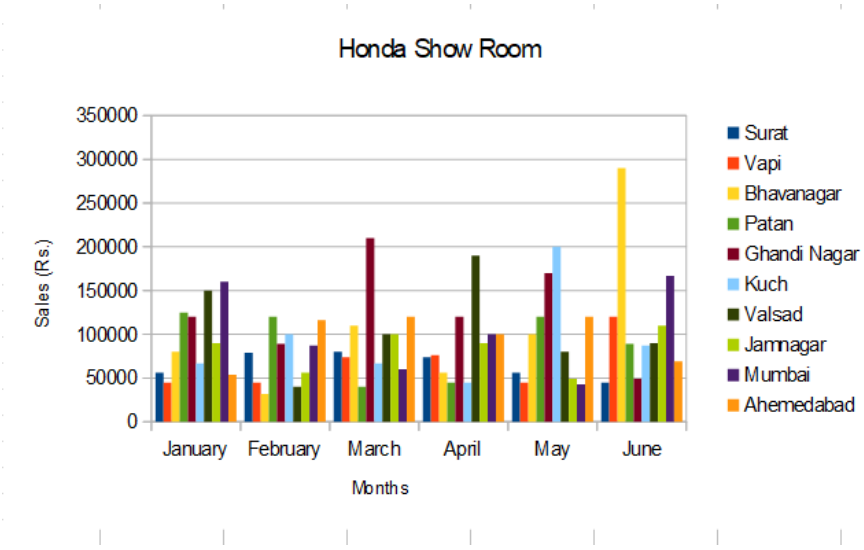
- Gross Pay = Hourly Worked *(Cell)* * Hourly Rate *(Cell)*
- Social Security Tax = Gross Pay * 0.06
- Net Pay = Gross Pay – Social Security Tax
- Eligible For Pension: =IF(Age>60;"Yes";"No") *[Age Cell]*

Question 2

Create a sheet for Honda Show room company which contains Sales and Profit Report (No, City, January, February, March, April, May, June ,Average, Maximum, Cost)

Answer:

Honda Show Room										
No	City	January	February	March	April	May	June	Total	Average Sales	Max Sales
1	Surat	56000	79000	80000	74000	56000	45000	390000	65,000.00	80000
2	Vapi	45000	45000	74000	76000	45000	120000	405000	67,500.00	120000
3	Bhavanagar	80000	32000	110000	56000	100000	290000	668000	111,333.33	290000
4	Patan	125000	120000	40000	45000	120000	89000	539000	89,833.33	125000
5	Ghandi Nagar	120000	89000	210000	120000	170000	49000	758000	126,333.33	210000
6	Kuch	67000	100000	67000	45000	200000	87000	566000	94,333.33	200000
7	Valsad	150000	40000	100000	190000	80000	90000	650000	108,333.33	190000
8	Jamnagar	90000	56000	100000	90000	49000	110000	495000	82,500.00	110000
9	Mumbai	160000	87000	60000	100000	43000	167000	617000	102,833.33	167000
10	Ahemedabad	54000	116000	120000	100000	120000	69000	579000	96,500.00	120000
Total Sales (Month)		947000	764000	961000	896000	983000	1116000			
Cost		400000	400000	450000	380000	390000	400000			
Profit		547000	364000	511000	516000	593000	716000			
Bonus(10%)		54700	36400	51100	51600	59300	71600			
Total Sales (50k+)		902000	647000	921000	806000	846000	1022000			



Report:

In January Month, Mumbai City's Sales Is Highest While In February Month Patan City's Sales Is Highest, In March Month Gandhinagar City's Sales Is Highest, In April Valsad City's Sales Is Highest & In June Bhavnagar City's Sales Is Highest.

Formula:

- Total Sales – Sum Of All Months (City Wise Per Month) & All City (Month Wise Per City) [=sum(month/city)]
- Average Sales – Average Of All Months Sale [=average(months)]
- Max Sales – Maximum Sale In All Months [=max(months)]
- Profit = Total Sales – Cost
- Bonus = Profit * 0.1 (10% Of Profit)
- Total Sales (50k+) – Total Sales Only For 50000+ [=sumif(months;”>50000”)]

Question 3

Create a sheet for Doctor and Patient Details using Following Fields: (Patient Name, Dr. Name, Admit Date, Discharge Date, Disease, Blood group, Fees_Charges, Discount)

Answer:

City Hospital								
No	Patient Name	Doctor Name	Admit Date	Discharge Date	Disease	Blood Group	Fees Charges	Discount
1	Amit Chorsiya	Dr. Mehul Desai	Dec 12, 20	Dec 30, 20	COVID	A+	1690	169
2	Ujjwal Patel	Dr. Arit Patel	Oct 10, 20	Nov 15, 20	Cold	A+	970	48.5
3	Atul Mohamad	Dr. Arit Patel	Aug 30, 20	Sep 5, 20	Cold	B+	600	30
4	Sami Patil	Dr. Raj Patel	Sep 12, 20	Sep 14, 20	Eye Infection	O+	400	No Discount
5	Riya Jariwala	Dr. Ravi Parmar	Feb 25, 20	Mar 5, 20	Dangue	AB+	2300	230
6	Mahima Patel	Dr. Arit Patel	Jan 17, 20	Jan 19, 20	Cold	A-	530	26.5
7	Arjun Soni	Dr. Mehul Desai	Mar 18, 20	Mar 28, 20	COVID	O-	1900	190
8	Sumit Patil	Dr. Raj Patel	Jul 21, 20	Jul 25, 20	Eye Infection	O+	340	No Discount
9	Priya Jariwala	Dr. Mehul Desai	Dec 20, 20	Dec 30, 20	COVID	B+	1890	189
10	Raj Patel	Dr. Ravi Parmar	Dec 21, 20	Dec 30, 20	Dangue	B-	2700	270

Formula:

- 5% Discount For 500>=”Fee”>=1000 & 10% Discount For 1000<=”Fee”

  =IF(Fee>=1000;Fee*0.1;IF(AND(Fee<1000;Fee>=500);Fee*0.05;"No Discount"))

  (Fee Means Fee Charges Cell)

Question 4

Create following table and add atleast 10 records in this table:

Table Name: Student

Field Name	Constraints
Stud_id	Primary Key
Stud_name	Not Null
Class	Must be FT or SY or TY
City	
Age	Must be >18
Maths	Must be >0
English	Must be >0
Computer	Must be >0
Total	Default 0
Per	Default 0
Result	Must be in ('Distinction', 'First', 'Second', 'Pass', 'Fail')

Answer:

- **Create Table Quary**

```
SQL>  create table Students(stud_id number(5) primary key,
  2    stud_name varchar(20) not null,
  3   class varchar(10) check(class in('FY','SY','TY')),
  4    city varchar(20),
  5   age number(5) check(age>18),
  6   maths number(5) check(maths>=0),
  7   english number(5) check(english>=0),
  8   computer number(10) check(computer>=0),
  9   totat number(5) default 0,
 10    percentage number(5) default 0,
 11    result varchar(20) check(result in('dist','first','second','pass','fail')));

Table created.

SQL> ■
```

```
SQL> desc Student;
 Name                                      Null?    Type
 ----------------------------------------- -------- ------------------
 STUD_ID                                   NOT NULL NUMBER(5)
 STUD_NAME                                 NOT NULL VARCHAR2(20)
 CLASS                                              VARCHAR2(10)
 CITY                                               VARCHAR2(20)
 AGE                                                NUMBER(5)
 MATHS                                              NUMBER(5)
 ENGLISH                                            NUMBER(5)
 COMPUTER                                           NUMBER(10)
 TOTAL                                              NUMBER(5)
 PERCENTAGE                                         NUMBER(5)
 RESULT                                             VARCHAR2(20)
```

Calculate Total for all records and update.

insert into Student values(&stud_id,'&stud_name','&class','&city',&age,&maths,&english,&computer,&total,&percent age,'&result');

Entervalueforstud_id:uniquiid

Entervalueforstud_name:studentname Enter value for class: name of class Enter value for city: name of city

Entervalueforage:Studentage Enter value for maths: mark Enter value for english: mark Entervalue forcomputer:mark Entervaluefortotal:insert=0

Entervalueforpercentage:insert=0 Enter value for result: null

SQL> / (backslash is used get again data from the user)

Example :

Enter value for stud_id: 02

Enter value for stud_name: Sanjay Enter value for class: FY

Enter value for city: Surat Enter value for age: 19 Enter value for maths: 80 Enter value for english: 85 Enter value for computer: 80 Enter value for total: 0

Enter value for percentage: 0 Enter value for result:

old 1: insert into Student
values(&stud_id,'&stud_name','&class','&city',&age,&maths,&english,&computer,&total,&pe rcent age,'&result')
new

1: insert into Student values(02,'Sanjay','FY','Surat',19,80,85,80,0,0,'') 1 row created. (successfully your data enter into the column *updated*)

WE UPDATE DATA IN COLUMN DIFFERENT DATA AT 10 TIMES

AFTER UPDATING TABLE ACUATLY THE TABLE WILL APPEARANCE LIKE BELOW

```
SQL> select stud_name,age,class,maths,english,computer
  2  from student;

STUD_NAME                 AGE CLASS          MATHS    ENGLISH   COMPUTER
------------------- ---------- ---------- ---------- ---------- ----------
Rahul                      20 FY                 80         90         95
Sanjay                     19 FY                 80         85         80
Ashmita                    19 FY                 75         70         65
Ahemad                     20 SY                 66         65         68
Gautam                     23 SY                 60         68         65
Utkarsh                    22 SY                 70         60         50
Avinash                    19 TY                 33         34         35
Tejash                     19 TY                 50         56         60
Suraj                      21 TY                 70         65         55
Angle Priya                19 TY                 60         65         68
```

Queries :

Calculate Total for all records.

```
SQL> Update Student
  2  SET total=Maths+English+Computer;

10 rows updated.
```

Update percentage attribute/field.

```
SQL> Update Student
  2  SET percentage=total/3;

10 rows updated.
```

Update result attribute as per following condition: (per>-70 then result Distinction', per>-60 then result 'First', per>-50 then result='Second', per>-35 then 'Pass' else 'Fail').

```
SQL> update Student
  2    SET result=
  3    CASE
  4          WHEN percentage>=70 THEN'dist'
  5          WHEN percentage>=60 THEN'first'
  6          WHEN percentage>=50 THEN'second'
  7          WHEN percentage>=50 THEN'pass'
  8         ELSE 'fail'
  9      end;
```

Display name of students who secure first class.

```
SQL> select stud_name
  2  FROM Student
  3  WHERE result='first';

STUD_NAME
--------------------
Ahemad
Gautam
Utkarsh
Suraj
Angle Priya
```

Name the students and their percentage who did not secure distinction.

```
SQL> select Stud_name,percentage
  2  FROM Student
  3  WHERE result<>'dist';

STUD_NAME            PERCENTAGE
-------------------- ----------
Ahemad                       66
Gautam                       64
Utkarsh                      60
Avinash                      34
Tejash                       55
Suraj                        63
Angle Priya                  64
```

Name the students, their percentage and class in ascending order percentage wise.

```
SQL> select Stud_name,class,percentage
  2  from Student
  3  order by percentage ASC;

STUD_NAME            CLASS      PERCENTAGE
-------------------- ---------- ----------
Avinash              TY                 34
Tejash               TY                 55
Utkarsh              SY                 60
Suraj                TY                 63
Angle Priya          TY                 64
Gautam               SY                 64
Ahemad               SY                 66
Ashmita              FY                 70
Sanjay               FY                 82
Rahul                FY                 88
```

Name the student who secured highest marks in Maths.

```
SQL> select stud_name
  2  from Student
  3  Where maths=(select max(maths) from Student);

STUD_NAME
--------------------
Rahul
Sanjay
```

Name the student who secured lowest marks in English

```
SQL> select stud_name
  2  from Student
  3  Where english=(select min(english) from Student);

STUD_NAME
--------------------
Avinash
```

Name the student who secured above 70 marks in maths and computer.

```
SQL> select stud_name
  2  from Student
  3  Where maths > 70 and computer > 70;

STUD_NAME
--------------------
Rahul
Sanjay
```

Display name of students who secured less than 35 marks in any of the three subjects.

```
SQL> select stud_name
  2  from Student
  3  Where maths < 35 OR english < 35 OR computer < 35;

STUD_NAME
--------------------
Avinash
```

What are the average marks obtained by students for computer?

```
SQL> select avg(computer) AS Average_computer_marks
  2  from Student;

AVERAGE_COMPUTER_MARKS
----------------------
                  64.1
```

Name the students and percentage who secured their percentage between 40 and 60.

```
SQL> Select Stud_name,percentage
  2  from student
  3  Where percentage BETWEEN 40 AND 60;

STUD_NAME            PERCENTAGE
-------------------- ----------
Utkarsh                      60
Tejash                       55
```

How many students obtained more than 65 marks in subject 2?

```
SQL> select count(*)
  2  from Student
  3  where english > 65;

  COUNT(*)
----------
         4
```

```
SQL> select count(*)
  2  from Student
  3  where computer <= 80;

  COUNT(*)
----------
         9
```

How many students didn't obtain more than 80 marks in subject 3?

Display name of students who are not study in SY.

```
SQL> select stud_name
  2  from Student
  3  where class NOT LIKE 'SY';

STUD_NAME
--------------------
Rahul
Sanjay
Ashmita
Avinash
Tejash
Suraj
Angle Priya
```

Display name of students who study in FY or SY.

```
SQL> select stud_name
  2  from Student
  3  where class IN('FY','SY');

STUD_NAME
--------------------
Rahul
Sanjay
Ashmita
Ahemad
Gautam
Utkarsh
```

```
SQL> select stud_name
  2  from Student
  3  where SUBSTR(stud_name,2,1)='a';

STUD_NAME
--------------------
Rahul
Sanjay
Gautam
```

Name the students whose second character of name is 'a'.

Name the students whose name start with 'A' and ends with 'a'.

```
SQL> select stud_name
  2  from Student
  3  where SUBSTR(stud_name,1,1)='A'AND SUBSTR(Stud_name,-1,1)='a';

STUD_NAME
--------------------
Ashmita
Angle Priya
```

Name the students whose names have exactly 6 characters.

```
SQL> select stud_name
  2  from Student
  3  where length(Stud_name)=6;

STUD_NAME
--------------------
Sanjay
Ahemad
Gautam
Tejash
```

```
SQL> Select count(*)
  2  from Student
  3  Where age < 24;

  COUNT(*)
----------
        10
```

How many students are having age below 24?

Name the student and their age in descending order, age wise.

```
SQL> select Stud_name,age
  2  from Student
  3  ORDER BY age DESC;

STUD_NAME                       AGE
-------------------- ----------
Gautam                           23
Utkarsh                          22
Suraj                            21
Ahemad                           20
Rahul                            20
Ashmita                          19
Angle Priya                      19
Avinash                          19
Tejash                           19
Sanjay                           19
```

Display name and age of students who are studying in SY or TY

```
SQL> select Stud_name,age
  2  from Student
  3  Where class in ('SY','TY');

STUD_NAME                     AGE
-------------------- ----------
Ahemad                        20
Gautam                        23
Utkarsh                       22
Avinash                       19
Tejash                        19
Suraj                         21
Angle Priya                   19
```

Name the students, their class and age who are studying in TY.

```
SQL> select Stud_name,age,class
  2  from Student
  3  where class='TY';

STUD_NAME                     AGE CLASS
-------------------- ---------- ----------
Avinash                       19 TY
Tejash                        19 TY
Suraj                         21 TY
Angle Priya                   19 TY
```

Name the students whose age is above 16 and below 20.

```
SQL> select Stud_name
  2  from Student
  3  where age > 16 AND age < 20;

STUD_NAME
--------------------
Sanjay
Ashmita
Avinash
Tejash
Angle Priya
```

Name the students who scored minimum 35 marks and maximum 70 marks in Computer.

```
SQL> select Stud_name
  2  from Student
  3  where computer >= 35 AND computer <=70;

STUD_NAME
--------------------
Ashmita
Ahemad
Gautam
Utkarsh
Avinash
Tejash
Suraj
Angle Priya
```