**1. VLOOKUP**

The VLOOKUP function is a built-in function in Excel that is categorized as a Lookup/Reference Function. Here VLOOKUP is used in order to generate Product Code, Price of the product as soon as the Product Name is entered.

**The syntax used:**

VLOOKUP( value, table, index\_number, [approximate\_match] )

Vlookup formula used to generate Product Code is as follows:

=VLOOKUP(J2, Table1,3,0)

Vlookup formula used to generate Rate RTU is as follows:

=VLOOKUP(J2, Table1,2,0)

Vlookup formula used to generate Rate Fabrication is as follows:

=VLOOKUP(J2, Table1,4,0)

Here in formula J2 represents the position of Product code. Table1 is table present in

sheet1, 4 represents the column number of corresponding outcome in Table1 (here it is rate fabrication which is present in column number 4 in Table1), 0 means appropriate match(optional).

**2. SEARCHABLE DROPDOWN FOR PRODUCT SELECTION**

We used user defined formulas along with the VBA code.

**Steps to be followed**:

1. Enter any sequence of letters present in product, automatically all the products containing those sequence of letters will be displayed.
2. Select the required product.

**The code used is as follows:**

Private Sub Worksheet\_SelectionChange(ByVal Target As Range)

If Target.Column = 10 Then

Application.Calculate

End If

End Sub

**3. MULTIPLE DOCUMENTS SELECTION IN DROPDOWN:**

We used VBA codes for selecting multiple documents of an individual in dropdown list .

**Steps to be followed**:

1. Select the required documents from the dropdown list of documents.

**The code used is as follows:**

Option Explicit

Private Sub Worksheet\_Change(ByVal Target As Range)

' To allow multiple selections in a Drop Down List in Excel (without repetition)

Dim Oldvalue As String

Dim Newvalue As String

Application.EnableEvents = True

On Error GoTo Exitsub

If Target.Column = 18 Then

If Target.SpecialCells(xlCellTypeAllValidation) Is Nothing Then

GoTo Exitsub

Else: If Target.Value = "" Then GoTo Exitsub Else

Application.EnableEvents = False

Newvalue = Target.Value

Application.Undo

Oldvalue = Target.Value

If Oldvalue = "" Then

Target.Value = Newvalue

Else

If InStr(1, Oldvalue, Newvalue) = 0 Then

Target.Value = Oldvalue & ", " & Newvalue

Else:

Target.Value = Oldvalue

End If

End If

End If

End If

Application.EnableEvents = True

Exitsub:

Application.EnableEvents = True

End Sub

**4. FINDING DUPLICATE ENTRIES**

We used VBA codes for finding duplicate entries present if any. Entries are found as duplicate based name , agr, gender, type of disability, product purchased.

**Steps to be followed**:

1. For duplicates case do ->ctrl+d

**The code used is as follows:**

Sub FindDuplicate()

'duplicate determined when ALL 3 columns 1,3,5 are identical in another row

Dim l As Long, r As Long, msg As String, j As Long

l = Range("A" & Rows.Count).End(xlUp).Row

Set ws = ThisWorkbook.Worksheets("sheet2")

For r = 2 To l

If IsEmpty(r) = False Then

For j = r + 1 To l

If ws.Cells(r, 1) = ws.Cells(j, 1) And ws.Cells(r, 2) = ws.Cells(j, 2) And ws.Cells(r, 3) = ws.Cells(j, 3) And ws.Cells(r, 10) = ws.Cells(j, 10) Then

msg = msg & vbCr & r & " and " & j

End If

Next j

End If

Next r

MsgBox "DUPLICATE ROWS" & msg

End Sub

**5.** **CHANGING CASES**

We used VBA codes for the proper case, upper case and the lower case.

**Steps to be followed**:

1. Select the table or a particular column where you want to change the case.
2. For upper case do ->ctrl+u
3. For lower case do ->ctrl+l
4. For proper case do ->ctrl+p

**The code used is as follows:**

Sub upper()

For Each cell In Selection

If Not cell.HasFormulaThen

cell.Value = UCase(cell.Value)

End If

Next cell

End Sub

Sub proper()

For Each cell In Selection

If Not cell.HasFormulaThen

cell.Value = Application.WorksheetFunction.proper(cell.Value)

End If

Next cell

End Sub

Sub lower()

For Each cell In Selection

If Not cell.HasFormulaThen

cell.Value = LCase(cell.Value)

End If

Next cell

End Sub

**6. PRODUCT SUMMARY**

We used VBA code to generate the summary date-wise. The summary generated consists of the product code and name. The quantity of each product is found in the ascending order of the dates in sheet 2 (main worksheet) and the total amount is also calculated.

**Steps to be followed:**

1. Go to sheet 3, you will find that the product codes and names are already present.
2. To get the summary press ctrl+r in sheet 3.

**The code used is as follows:**

Sub summary()

Dim l As Long, r As Long, msg As String, m As Long, n As Long, d As Date, k As Long, j As Long

Dim myrange As Range

Set ws0 = ThisWorkbook.Worksheets("sheet1")

Set ws = ThisWorkbook.Worksheets("sheet2")

Set ws1 = ThisWorkbook.Worksheets("sheet3")

l = ws.Range("A" &Rows.Count).End(xlUp).Row

k = ws.Range("H" &Rows.Count).End(xlUp).Row

j = ws1.Range("B" &Rows.Count).End(xlUp).Row

t = ws1.Range("B" &Rows.Count).End(xlUp).Row

Set myrange = ws1.Range("D1:Z100")

myrange.Clear

n = 1

d = ws.Cells(2, 8)

ws1.Cells(1, 4) = d

For m = 2 To j

ws1.Cells(m, 4) = 0

Next m

For r = 2 To l

For m = 2 To j

If ws1.Cells(m, 2) = ws.Cells(r, 12) And ws.Cells(r, 8) = ws1.Cells(1, 4) Then

ws1.Cells(m, 4) = ws1.Cells(m, 4) + ws.Cells(r, 13)

End If

Next m

Next r

For r = 3 To k

If ws.Cells(r, 8) <> d Then

n = n + 1

d = ws.Cells(r, 8)

ws1.Cells(1, 3 + n) = d

For m = 2 To j

ws1.Cells(m, 3 + n) = 0

Next m

For p = 2 To l

For q = 2 To j

If ws1.Cells(q, 2) = ws.Cells(p, 12) And ws.Cells(p, 8) = ws1.Cells(1, 3 + n) Then

ws1.Cells(q, 3 + n) = ws1.Cells(q, 3 + n) + ws.Cells(p, 13)

End If

Next q

Next p

End If

Next r

ws1.Cells(1, 4 + n) = "Total Quantity"

ws1.Cells(1, 5 + n) = "Rtu Rate"

ws1.Cells(1, 6 + n) = "Net Amount"

For m = 2 To j

ws1.Cells(m, 4 + n) = 0

ws1.Cells(m, 6 + n) = 0

Next m

For r = 2 To t

For m = 2 To j

If ws1.Cells(m, 2) = ws0.Cells(r, 3) And ws1.Cells(m, 2) <> ws0.Cells(36, 3) Then

ws1.Cells(m, 5 + n) = ws0.Cells(r, 2)

End If

If ws1.Cells(m, 3) = ws0.Cells(r, 1) And ws1.Cells(m, 2) = ws0.Cells(36, 3) Then

ws1.Cells(m, 5 + n) = ws0.Cells(r, 4)

End If

Next m

Next

For m = 2 To j

For r = 4 To n + 3

ws1.Cells(m, 4 + n) = ws1.Cells(m, 4 + n) + ws1.Cells(m, r)

Next r

Next m

For m = 2 To j

ws1.Cells(m, 6 + n) = ws1.Cells(m, 4 + n) \* ws1.Cells(m, 5 + n)

Next m

End Sub