Add / Delete rows in Table and Edit using Cell editors

Assume that you already know how to create a table and table viewer. In this tutorial we will learn about add a row in table, cell editor, cell modifier and function of modifier.

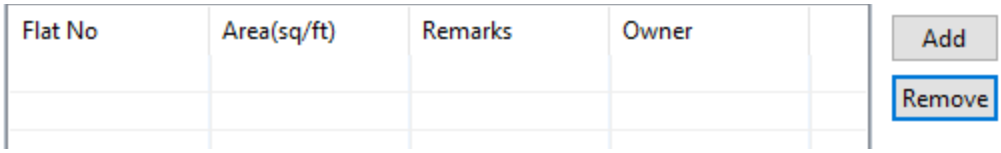
Add a row in table:

Step 1: add a button.

Add two button on your UI this button is responsible for add new row and delete a row from your table.

You can use the following code for add buttons

```
Button btnAdd = new Button(composite_1, SWT.NONE);
btnAdd.setLayoutData(new GridData(SWT.FILL, SWT.CENTER, false, false, 1, 1));
managedForm.getToolkit().adapt(btnAdd, true, true);
btnAdd.setText("Add");
```




```
Button btnRemove = new Button(composite_1, SWT.NONE);
btnRemove.setLayoutData(new GridData(SWT.FILL, SWT.TOP, false, false, 1, 1));
managedForm.getToolkit().adapt(btnRemove, true, true);
btnRemove.setText("Remove");
```

Step 2: add listener

Add row:-Now you have to add a listener to your button for listen your actions. Add AddSelectionListener() listener with "new SelectionAdapter()" parameter →add widgetSelected() method →set a default values in column → refresh your table viewer.

```
btnAdd.addSelectionListener(new SelectionAdapter() {
    public void widgetSelected(SelectionEvent e) {
        // TODO Auto-generated method stub
        Flat flat=ApartmentFactory.eINSTANCE.createFlat();
        flat.setNumber("00");
        flat.setSqrFeet("0");
        flat.setRemarks("remarks");
        Owner owner=ApartmentFactory.eINSTANCE.createOwner();
        owner.setName("Owner Name");
        flat.setOwner(owner);
        apartment2.getFlat().add(flat);

        tableViewer.refresh();
        super.widgetSelected(e);
    }
});
```

Default values for row

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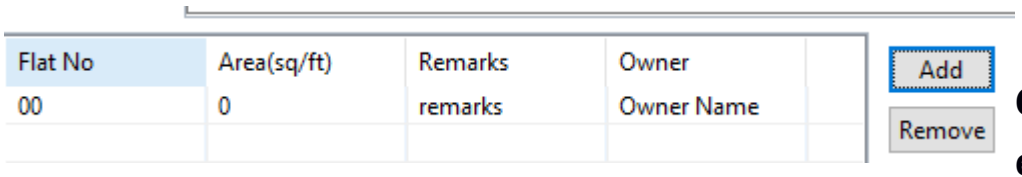
Delete row:-Now you have to add a listener to your button for listen your actions. Add AddSelectionListener() listener with "new SelectionAdapter()" parameter →add widgetSelected() method →take selection containing elements→remove the selected element→ refresh your table viewer.

```
btnRemove.addSelectionListener(new SelectionAdapter() {
    public void widgetSelected(SelectionEvent e) {
        IStructuredSelection selection = (IStructuredSelection) tableViewer.getSelection();
        if(!selection.isEmpty()){
            Iterator iterator = selection.iterator();
            while (iterator.hasNext()) {
                Object object =  iterator.next();
                apartment2.getFlat().remove(object);
            }
            tableViewer.refresh();
        }
        // TODO Auto-generated method stub
        super.widgetSelected(e);
    }
});
```

Step 3: output.



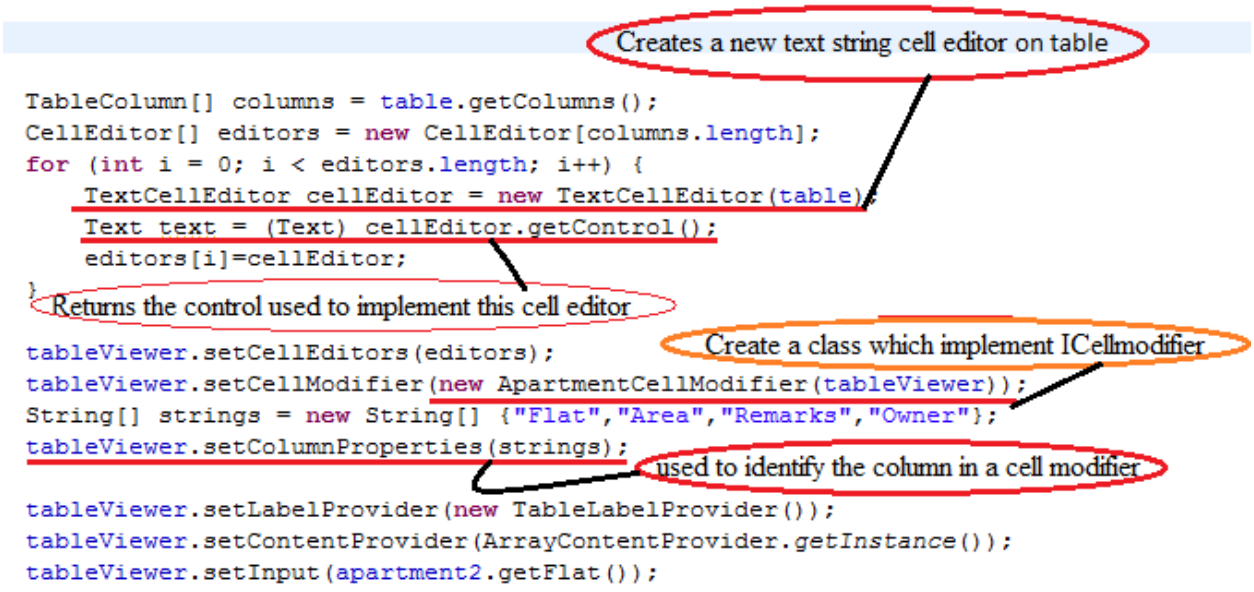
Cell editor and modifier:

Step 1: Add cell editor and cell modifier to table.

Find the table column length→get the cell control using a loop on columns → set cell editor in table viewer → set cell modifier in table viewer → set column properties in table viewer.

Note:- the cell modifier class implements ICellModifier we pass table viewer as a parameter of constructor

use setLabelProvider,SetContentProvider and SetInput methods after cell editor and cell modifier .




```
TableColumn[] columns = table.getColumns();
CellEditor[] editors = new CellEditor[columns.length];
for (int i = 0; i < editors.length; i++) {
    TextCellEditor cellEditor = new TextCellEditor(table);
    Text text = (Text) cellEditor.getControl();
    editors[i]=cellEditor;
}
tableViewer.setCellEditors(editors);
tableViewer.setCellModifier(new ApartmentCellModifier(tableViewer));
String[] strings = new String[] {"Flat","Area","Remarks","Owner"};
tableViewer.setColumnProperties(strings);

tableViewer.setLabelProvider(new TableLabelProvider());
tableViewer.setContentProvider(ArrayContentProvider.getInstance());
tableViewer.setInput(apartment2.getFlat());
```

Step 2: Edit getValue() and modify() method of cell modifier of class.

Open your cell modifier class there is three method **canModify()**,**getvalue()**,**modify()**.

Assign your parameter to field → Set return of **canModify()** method is true → check for instance in **getValue()** method if instance matched then check for property of column and return the values → check for instance in **modify()** method for table item if instance matched then check for property of column and set the value → refresh table viewer.

```
public ApartmentCellModifier(TableViewer tableViewer) {
    this.tableViewer = tableViewer;
    // TODO Auto-generated constructor stub
}

public boolean canModify(Object element, String property) {
    // TODO Auto-generated method stub
    return true;
}
```

```
public Object getValue(Object element, String property) {
    if (element instanceof Flat ) {
        Flat flat = (Flat) element;
        if(property.equals("Flat"))
        {
            return flat.getNumber();
        }
        else if(property.equals("Area"))
        {
            return flat.getSqrFeet();
        }
        else if(property.equals("Remarks"))
        {
            return flat.getRemarks();
        }
        else if(property.equals("Owner"))
        {
            return flat.getOwner().getName();
        }
    }
    // TODO Auto-generated method stub
    return null;
```

Same string used in setproperties method

```
String[] strings = new String[] {"Flat","Area","Remarks","Owner"};
tableViewer.setColumnProperties(strings);
```

```
public void modify(Object element, String property, Object value) {
    // TODO Auto-generated method stub

    if (element instanceof TableItem) {
        Flat item = (Flat)((TableItem )element).getData();
        if (property.equals("Flat")) {
            item.setNumber(value.toString());
        }
        else if (property.equals("Area")) {
            item.setSqrFeet(value.toString());
        }
        else if (property.equals("Remarks")) {
            item.setRemarks(value.toString());
        }
        else if (property.equals("Owner")) {
            item.getOwner().setName(value.toString());
        }
        tableViewer.refresh();
    }
}
```

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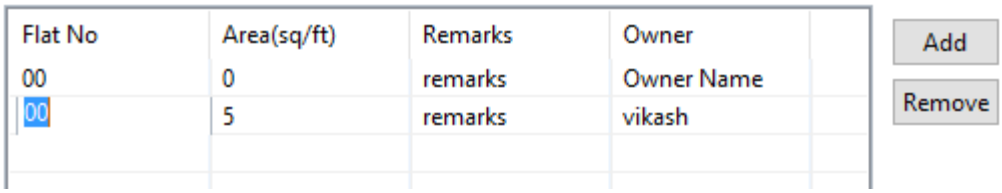
Step 3: output.



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