

```
classdef app2 < matlab.apps.AppBase
```

```
% Properties that correspond to app components
```

```
properties (Access = public)
```

```
ShetPileWall matlab.ui.Figure
```

```
TabGroup matlab.ui.container.TabGroup
```

```
InputTab matlab.ui.container.Tab
```

```
AnchorPropertiesPanel matlab.ui.container.Panel
```

```
InstallAnchorCheckBox matlab.ui.control.CheckBox
```

```
EquivalentresistancestiffnessinKNm3mEditFieldLabel matlab.ui.control.Label
```

```
EquivalentresistancestiffnessinKNm3m matlab.ui.control.NumericEditField
```

```
PositionofAnchorfromtopinmEditFieldLabel matlab.ui.control.Label
```

```
PositionofAnchorfromtopinm matlab.ui.control.NumericEditField
```

```
InputParametersPanel matlab.ui.container.Panel
```

```
PileLengthinmEditFieldLabel matlab.ui.control.Label
```

```
PileLengthinm matlab.ui.control.NumericEditField
```

```
DepthofExcavationinmEditFieldLabel matlab.ui.control.Label
```

```
DepthofExcavationinm matlab.ui.control.NumericEditField
```

```
NumberofsegmentsLabel matlab.ui.control.Label
```

```
numberofsegments matlab.ui.control.NumericEditField
```

```
WallElasticmodulusinKNm2EditFieldLabel matlab.ui.control.Label
```

```
WallElasticmodulusinKNm2 matlab.ui.control.NumericEditField
```

```
Momentofinertiam4EditFieldLabel matlab.ui.control.Label
```

```
Momentofinertiam4 matlab.ui.control.NumericEditField
```

```
SurchargeKpaEditFieldLabel matlab.ui.control.Label
```

```
SurchargeKpa matlab.ui.control.NumericEditField
```

```
SoilPropertiesPanel matlab.ui.container.Panel
```

```
CoefficientofactivepressureLabel matlab.ui.control.Label
```

```
FrictionAngleinDegrees matlab.ui.control.NumericEditField
```

```
specificWeightinKNm3EditFieldLabel matlab.ui.control.Label
```

```
specificWeightinKNm3 matlab.ui.control.NumericEditField
```

```
watertableCheckBox matlab.ui.control.CheckBox
```

```
hightofwatertablefromtopinmEditFieldLabel matlab.ui.control.Label
```

```
hightofwatertablefromtopinm matlab.ui.control.NumericEditField
```

```
SaturdatedspecificWeightinKNm3EditFieldLabel matlab.ui.control.Label
```

```
SaturdatedspecificWeightinKNm3 matlab.ui.control.NumericEditField
```

```
ModulusofsubgradereactioninKNm3EditFieldLabel matlab.ui.control.Label
```

```
ModulusofsubgradereactioninKNm3 matlab.ui.control.NumericEditField
```

```
watertableCheckBox_2 matlab.ui.control.CheckBox
```

```
ModulusofsubgradereactionButtonGroup matlab.ui.container.ButtonGroup
```

```
ConstantButton matlab.ui.control.RadioButton
```

```
VariablealongdepthButton matlab.ui.control.RadioButton
```

```
StartButton matlab.ui.control.Button
```

```
ResultsTab matlab.ui.container.Tab
```

```
Sm1 matlab.ui.control.UIAxes
```

```
Vm1 matlab.ui.control.UIAxes
```

```
Ym1 matlab.ui.control.UIAxes
```

```
MmaxEditFieldLabel matlab.ui.control.Label
```

```
MmaxEditField matlab.ui.control.EditField
```

```
ymaxEditFieldLabel matlab.ui.control.Label
```

```
ymaxEditField matlab.ui.control.EditField
```

```
VmaxEditFieldLabel matlab.ui.control.Label
```

```

VmaxEditField matlab.ui.control.EditField
VminEditFieldLabel matlab.ui.control.Label
VminEditField matlab.ui.control.EditField
Mm1 matlab.ui.control.UIAxes
end

% Callbacks that handle component events
methods (Access = private)

% Button pushed function: StartButton
function StartButtonPushed(app, event)
L= app.PileLengthinm.Value;
seg= app.numberofsegments.Value;
h0= app.DepthofExcavationinm.Value;
Ep= app.WallElasticmodulusinKNm2.Value;
Ip= app.Momentofinertiam4.Value;
qd= app.SurchargeKpa.Value;
ka=app.FrictionAngleinDegrees.Value;
g =app.specificWeightinKNm3.Value;
Epy=app.ModulusofsubgradereactioninKNm3.Value;
wt= app.hightofwatertablefromtopinm.Value;
gsat=app.SaturnatedspecificWeightinKNm3.Value;
anchor=app.EquivalentresistancestiffnessinKNm3m.Value;
anchor_h=app.PositionofAnchorfromtopinm.Value;
if (app.ConstantButton.Value)
modulus = 0;
else
modulus =1;
end
%code

h =L/seg; %segment size m
Rp =Ep*Ip ; %KN-m2
if gsat==0
gprime=g;
else
gprime = gsat-9.81;
end

nr= (seg)+1;
nc= (seg)+5;

depth=zeros(nc,1);
wm = zeros(nc, 1);
k1 = zeros(nc, 1);

```

```

for i=4:1:nc-2
depth(i,1)= depth(i-1,1) + h;
end

```

```

for i=4:1:nc-2
if depth(i,1)<h0
if depth(i,1) <= wt
wm(i,1) = ka*g*depth(i,1) +qd*ka;
else
wm(i,1) = ka*g*wt + ka*gprime*(depth(i,1)-wt) +qd*ka;
end
else
wm(i,1) = ka*g*wt + ka*gprime*(h0-wt) + qd*ka;
if modulus ==0
k1(i,1) = Epy;
else
k1(i,1) = Epy * ((depth(i,1)-h0)/(L-h0));
end
end
end
end

```

```

wm= wm*h^4 /Rp;

```

```

k1((anchor_h/h+3) ,1) = anchor;

```

```

k1= k1*h^4 /Rp;

```

```

%1st two rows for boundary condition at top pile
r1=[-1 2 0 -2 1]; %eq7.53
r2=[0 1 -2 1 0]; %eq7.54

```

```

c1 = zeros(1, (nc-5));
c2 = zeros(1, (nc-5));

```

```

r1 =[r1 c1];
r2 =[r2 c2];

```

```

%last 2 rows for boundary condition at bottom pile
rend1 = [0 1 -2 1 0]; %eq7.50
rend2 = [-1 2 0 -2 1]; %eq7.52

```

```

cend1 = zeros(1, (nc-5));
cend2 = zeros(1, (nc-5));

```

```

rend1 = [cend1 rend1];
rend2 = [cend2 rend2];

```

```

    %A* y =B
A = zeros(nr,nc);

```

```

                                %FEM equation eq7.48
for i = 1:1:nr

```

```

    const1 = 1;                                %y(m-2)
    const2 = -4 ;                               %y(m-1)
    const3 = 6 +k1(i+2,1);                       %y(m)
    const4 = -4 ;                               %y(m+1)
    const5 = 1;                                %y(m+2)

```

```

    A(i,i) =const1;
    A(i,i+1) =const2;
    A(i,i+2) =const3;
    A(i,i+3) =const4;
    A(i,i+4) =const5;

```

```

end

```

```

A =
    [r1;
     r2;
     A;
     rend1;
     rend2;];

```

```

ym = A\wm;                                %deflection matric

```

```

%fa=anchor* ym((anchor_h/h+3) ,1);

```

```

Sm = zeros(nr,1);
Vm = zeros(nr,1);
Mm = zeros(nr,1);

```

```

for i = 1:1:nr

    Sm(i,1)= ( ym(i+1) -ym(i+3) ) /(2*h);

    Vm(i,1)= -(Rp* (-ym(i) + 2*ym(i+1) -2* ym(i+3) +ym(i+4)))/
(2*h^3);

    Mm(i,1)= -(Rp *(ym(i+1) - 2 *ym(i+2) + ym(i+3)))/ (h^2);

end

```

```

r = zeros(nr,1);

```

```

j=1;
for i=0:h:(L)
    r(j,1)=i;
    j=j+1;
end
ymnew=zeros(nr,1);
for i=3:1:(nc-2)
    ymnew(i-2,1)= ym(i,1);
end

```

```

[~,x] = max(abs(ymnew));
app.ymaxEditField.Value=num2str(ymnew(x));

```

```

[~,x] = max(Vm);
app.VmaxEditField.Value=num2str(Vm(x));

```

```

[~,x] = min(Vm);
app.VminEditField.Value=num2str(Vm(x));

```

```

[~,x] = max(abs(Mm));
app.MmaxEditField.Value= num2str(Mm(x));

```

```

plot(app.Ym1,ymnew,r)

```

```
plot(app.Sm1,Sm,r)
plot(app.Vm1,Vm,r)
plot(app.Mm1,Mm,r)
```

```
end
```

```
% Value changed function: InstallAnchorCheckBox
function InstallAnchorCheckBoxValueChanged(app, event)
value = app.InstallAnchorCheckBox.Value;
switch value
case 0
app.EquivalentresistancestiffnessinKNm3m.Visible= 'off';
app.PositionofAnchorfromtopinm.Visible = 'off';
case 1
app.EquivalentresistancestiffnessinKNm3m.Visible= 'on';
app.PositionofAnchorfromtopinm.Visible = 'on';
end
end
```

```
% Value changed function: watertableCheckBox_2
function watertableCheckBox_2ValueChanged(app, event)
value = app.watertableCheckBox_2.Value;
switch value
case 0
app.hightofwatertablefromtopinm.Visible= 'off';
app.SaturdatedspecificWeightinKNm3.Visible = 'off';
case 1
app.hightofwatertablefromtopinm.Visible= 'on';
app.SaturdatedspecificWeightinKNm3.Visible = 'on';
end
end
end
```

```
% Component initialization
methods (Access = private)
```

```
% Create UIFigure and components
function createComponents(app)
```

```
% Create ShetPileWall and hide until all components are created
app.ShetPileWall = uifigure('Visible', 'off');
app.ShetPileWall.Position = [100 100 697 480];
app.ShetPileWall.Name = 'Sheet Pile Wall';
```

```
% Create TabGroup
app.TabGroup = uitabgroup(app.ShetPileWall);
```

```

app.TabGroup.Position = [1 1 687 480];

% Create InputTab
app.InputTab = uitab(app.TabGroup);
app.InputTab.Title = 'Input Tab';

% Create AnchorPropertiesPanel
app.AnchorPropertiesPanel = uipanel(app.InputTab);
app.AnchorPropertiesPanel.Title = 'Anchor Properties';
app.AnchorPropertiesPanel.Position = [20 63 336 116];

% Create InstallAnchorCheckBox
app.InstallAnchorCheckBox = uicheckbox(app.AnchorPropertiesPanel);
app.InstallAnchorCheckBox.ValueChangedFcn = createCallbackFcn(app,
@InstallAnchorCheckBoxValueChanged, true);
app.InstallAnchorCheckBox.Text = 'Install Anchor';
app.InstallAnchorCheckBox.FontWeight = 'bold';
app.InstallAnchorCheckBox.Position = [12 73 102 22];

% Create EquivalentresistancestiffnessinKNm3mEditFieldLabel
app.EquivalentresistancestiffnessinKNm3mEditFieldLabel =
uicontrol(app.AnchorPropertiesPanel);
app.EquivalentresistancestiffnessinKNm3mEditFieldLabel.HorizontalAlignment =
'right';
app.EquivalentresistancestiffnessinKNm3mEditFieldLabel.Position = [19 47 231
22];
app.EquivalentresistancestiffnessinKNm3mEditFieldLabel.Text = 'Equivalent
resistance stiffness in KN/m3/m';

% Create EquivalentresistancestiffnessinKNm3m
app.EquivalentresistancestiffnessinKNm3m =
uicontrol(app.AnchorPropertiesPanel, 'numeric');
app.EquivalentresistancestiffnessinKNm3m.Visible = 'off';
app.EquivalentresistancestiffnessinKNm3m.Position = [257 47 73 22];

% Create PositionofAnchorfromtopinmEditFieldLabel
app.PositionofAnchorfromtopinmEditFieldLabel =
uicontrol(app.AnchorPropertiesPanel);
app.PositionofAnchorfromtopinmEditFieldLabel.Position = [19 16 231 22];
app.PositionofAnchorfromtopinmEditFieldLabel.Text = 'Position of Anchor from
top in m';

% Create PositionofAnchorfromtopinm
app.PositionofAnchorfromtopinm = uicontrol(app.AnchorPropertiesPanel,
'numeric');
app.PositionofAnchorfromtopinm.Visible = 'off';
app.PositionofAnchorfromtopinm.Position = [257 16 73 22];

```

```

% Create InputParametersPanel
app.InputParametersPanel = uipanel(app.InputTab);
app.InputParametersPanel.Title = 'Input Parameters';
app.InputParametersPanel.Position = [20 207 298 221];

% Create PileLengthinmEditFieldLabel
app.PileLengthinmEditFieldLabel = uilabel(app.InputParametersPanel);
app.PileLengthinmEditFieldLabel.Position = [13 165 92 22];
app.PileLengthinmEditFieldLabel.Text = 'Pile Length in m';

% Create PileLengthinm
app.PileLengthinm = uieditfield(app.InputParametersPanel, 'numeric');
app.PileLengthinm.HorizontalAlignment = 'center';
app.PileLengthinm.Position = [191 165 59 22];

% Create DepthofExcavationinmEditFieldLabel
app.DepthofExcavationinmEditFieldLabel = uilabel(app.InputParametersPanel);
app.DepthofExcavationinmEditFieldLabel.Position = [11 109 139 22];
app.DepthofExcavationinmEditFieldLabel.Text = 'Depth of Excavation in m';

% Create DepthofExcavationinm
app.DepthofExcavationinm = uieditfield(app.InputParametersPanel, 'numeric');
app.DepthofExcavationinm.HorizontalAlignment = 'center';
app.DepthofExcavationinm.Position = [191 109 59 22];

% Create NumberofsegmentsLabel
app.NumberofsegmentsLabel = uilabel(app.InputParametersPanel);
app.NumberofsegmentsLabel.Position = [11 139 117 22];
app.NumberofsegmentsLabel.Text = 'Number of segments';

% Create numberofsegments
app.numberofsegments = uieditfield(app.InputParametersPanel, 'numeric');
app.numberofsegments.HorizontalAlignment = 'center';
app.numberofsegments.Position = [191 139 59 22];

% Create WallElasticmodulusinKNm2EditFieldLabel
app.WallElasticmodulusinKNm2EditFieldLabel =
uilabel(app.InputParametersPanel);
app.WallElasticmodulusinKNm2EditFieldLabel.Position = [11 79 168 22];
app.WallElasticmodulusinKNm2EditFieldLabel.Text = 'Wall Elastic modulus in
KN/m2';

% Create WallElasticmodulusinKNm2

```



```

app.WallElasticmodulusinKNm2 = uicontrolfield(app.InputParametersPanel,
'numeric');
app.WallElasticmodulusinKNm2.HorizontalAlignment = 'center';
app.WallElasticmodulusinKNm2.Position = [191 79 59 22];

% Create Momentofinertiam4EditFieldLabel
app.Momentofinertiam4EditFieldLabel = uicontrolfield(app.InputParametersPanel);
app.Momentofinertiam4EditFieldLabel.Position = [11 49 118 22];
app.Momentofinertiam4EditFieldLabel.Text = 'Moment of inertia m4';

% Create Momentofinertiam4
app.Momentofinertiam4 = uicontrolfield(app.InputParametersPanel, 'numeric');
app.Momentofinertiam4.HorizontalAlignment = 'center';
app.Momentofinertiam4.Position = [191 49 59 22];

% Create SurchargeKpaEditFieldLabel
app.SurchargeKpaEditFieldLabel = uicontrolfield(app.InputParametersPanel);
app.SurchargeKpaEditFieldLabel.Position = [11 19 86 22];
app.SurchargeKpaEditFieldLabel.Text = 'Surcharge Kpa';

% Create SurchargeKpa
app.SurchargeKpa = uicontrolfield(app.InputParametersPanel, 'numeric');
app.SurchargeKpa.HorizontalAlignment = 'center';
app.SurchargeKpa.Position = [191 19 59 22];

% Create SoilPropertiesPanel
app.SoilPropertiesPanel = uicontrolpanel(app.InputTab);
app.SoilPropertiesPanel.Title = 'Soil Properties';
app.SoilPropertiesPanel.Position = [342 207 298 221];

% Create CoefficientofactivepressureLabel
app.CoefficientofactivepressureLabel = uicontrolfield(app.SoilPropertiesPanel);
app.CoefficientofactivepressureLabel.Position = [13 165 160 22];
app.CoefficientofactivepressureLabel.Text = 'Coefficient of active pressure';

% Create FrictionAngleinDegrees
app.FrictionAngleinDegrees = uicontrolfield(app.SoilPropertiesPanel, 'numeric');
app.FrictionAngleinDegrees.HorizontalAlignment = 'center';
app.FrictionAngleinDegrees.Position = [227 165 63 22];

% Create specificWeightinKNm3EditFieldLabel
app.specificWeightinKNm3EditFieldLabel = uicontrolfield(app.SoilPropertiesPanel);
app.specificWeightinKNm3EditFieldLabel.Position = [11 139 138 22];
app.specificWeightinKNm3EditFieldLabel.Text = 'specific Weight in KN/m3';

```

```

% Create specificWeightinKNm3
app.specificWeightinKNm3 = uieditfield(app.SoilPropertiesPanel, 'numeric');
app.specificWeightinKNm3.HorizontalAlignment = 'center';
app.specificWeightinKNm3.Position = [227 139 63 22];

% Create watertableCheckBox
app.watertableCheckBox = uicheckbox(app.SoilPropertiesPanel);
app.watertableCheckBox.Text = 'water table';
app.watertableCheckBox.Position = [48 79 81 22];

% Create hightofwatertablefromtopinmEditFieldLabel
app.hightofwatertablefromtopinmEditFieldLabel =
uilabel(app.SoilPropertiesPanel);
app.hightofwatertablefromtopinmEditFieldLabel.Position = [13 58 180 22];
app.hightofwatertablefromtopinmEditFieldLabel.Text = 'hight of water table
from top in m';

% Create hightofwatertablefromtopinm
app.hightofwatertablefromtopinm = uieditfield(app.SoilPropertiesPanel,
'numeric');
app.hightofwatertablefromtopinm.HorizontalAlignment = 'center';
app.hightofwatertablefromtopinm.Visible = 'off';
app.hightofwatertablefromtopinm.Position = [227 58 63 22];

% Create SaturdatedspecificWeightinKNm3EditFieldLabel
app.SaturdatedspecificWeightinKNm3EditFieldLabel =
uilabel(app.SoilPropertiesPanel);
app.SaturdatedspecificWeightinKNm3EditFieldLabel.Position = [13 27 201 22];
app.SaturdatedspecificWeightinKNm3EditFieldLabel.Text = 'Saturdated specific
Weight in KN/m3';

% Create SaturdatedspecificWeightinKNm3
app.SaturdatedspecificWeightinKNm3 = uieditfield(app.SoilPropertiesPanel,
'numeric');
app.SaturdatedspecificWeightinKNm3.HorizontalAlignment = 'center';
app.SaturdatedspecificWeightinKNm3.Visible = 'off';
app.SaturdatedspecificWeightinKNm3.Position = [227 27 63 22];

% Create ModulusofsubgradereactioninKNm3EditFieldLabel
app.ModulusofsubgradereactioninKNm3EditFieldLabel =
uilabel(app.SoilPropertiesPanel);
app.ModulusofsubgradereactioninKNm3EditFieldLabel.Position = [11 108 217 22];
app.ModulusofsubgradereactioninKNm3EditFieldLabel.Text = 'Modulus of subgrade
reaction in KN/m3';

% Create ModulusofsubgradereactioninKNm3

```

```

app.ModulusofsubgradereactioninKNm3 = uieditfield(app.SoilPropertiesPanel,
'numeric');
app.ModulusofsubgradereactioninKNm3.HorizontalAlignment = 'center';
app.ModulusofsubgradereactioninKNm3.Position = [227 108 63 22];

% Create watertableCheckBox_2
app.watertableCheckBox_2 = uicheckbox(app.SoilPropertiesPanel);
app.watertableCheckBox_2.ValueChangedFcn = createCallbackFcn(app,
@watertableCheckBox_2ValueChanged, true);
app.watertableCheckBox_2.Text = 'water table';
app.watertableCheckBox_2.Position = [48 79 81 22];

% Create ModulusofsubgradereactionButtonGroup
app.ModulusofsubgradereactionButtonGroup = uibuttongroup(app.InputTab);
app.ModulusofsubgradereactionButtonGroup.TitlePosition = 'centertop';
app.ModulusofsubgradereactionButtonGroup.Title = 'Modulus of subgrade
reaction';
app.ModulusofsubgradereactionButtonGroup.BackgroundColor = [0.902 0.902
0.902];
app.ModulusofsubgradereactionButtonGroup.FontWeight = 'bold';
app.ModulusofsubgradereactionButtonGroup.Position = [395 105 197 74];

% Create ConstantButton
app.ConstantButton = uiradiobutton(app.ModulusofsubgradereactionButtonGroup);
app.ConstantButton.Text = 'Constant';
app.ConstantButton.Position = [11 28 70 22];
app.ConstantButton.Value = true;

% Create VariablealongdepthButton
app.VariablealongdepthButton =
uiradiobutton(app.ModulusofsubgradereactionButtonGroup);
app.VariablealongdepthButton.Text = 'Variable along depth';
app.VariablealongdepthButton.Position = [11 6 131 22];

% Create StartButton
app.StartButton = uibutton(app.InputTab, 'push');
app.StartButton.ButtonPushedFcn = createCallbackFcn(app, @StartButtonPushed,
true);
app.StartButton.BackgroundColor = [0.8 0.8 0.8];
app.StartButton.FontSize = 20;
app.StartButton.FontWeight = 'bold';
app.StartButton.FontAngle = 'italic';
app.StartButton.Position = [428 3 130 48];
app.StartButton.Text = 'Start';

% Create ResultsTab
app.ResultsTab = uitab(app.TabGroup);
app.ResultsTab.Title = 'Results';

```

```

% Create Sm1
app.Sm1 = uiaxes(app.ResultsTab);
title(app.Sm1, 'Sm')
xlabel(app.Sm1, '')
ylabel(app.Sm1, 'Depth m')
app.Sm1.PlotBoxAspectRatio = [1 2.32704402515723 1];
app.Sm1.YDir = 'reverse';
app.Sm1.XAxisLocation = 'top';
app.Sm1.Position = [534 112 151 310];

% Create Vm1
app.Vm1 = uiaxes(app.ResultsTab);
title(app.Vm1, 'Vm (MN)')
xlabel(app.Vm1, '')
ylabel(app.Vm1, 'Depth m')
app.Vm1.PlotBoxAspectRatio = [1 2.32704402515723 1];
app.Vm1.YDir = 'reverse';
app.Vm1.XAxisLocation = 'top';
app.Vm1.Position = [361 111 151 310];

% Create Ym1
app.Ym1 = uiaxes(app.ResultsTab);
title(app.Ym1, 'Ym (m)')
xlabel(app.Ym1, '')
ylabel(app.Ym1, 'Depth m')
app.Ym1.PlotBoxAspectRatio = [1 2.32704402515723 1];
app.Ym1.YDir = 'reverse';
app.Ym1.XAxisLocation = 'top';
app.Ym1.Position = [14 112 151 310];

% Create MmaxEditFieldLabel
app.MmaxEditFieldLabel = uilabel(app.ResultsTab);
app.MmaxEditFieldLabel.HorizontalAlignment = 'right';
app.MmaxEditFieldLabel.Position = [59 58 38 22];
app.MmaxEditFieldLabel.Text = 'Mmax';

% Create MmaxEditField
app.MmaxEditField = uieditfield(app.ResultsTab, 'text');
app.MmaxEditField.Position = [133 58 79 22];

% Create ymaxEditFieldLabel
app.ymaxEditFieldLabel = uilabel(app.ResultsTab);
app.ymaxEditFieldLabel.HorizontalAlignment = 'right';
app.ymaxEditFieldLabel.Position = [63 16 34 22];
app.ymaxEditFieldLabel.Text = 'ymax';

```

```

% Create ymaxEditField
app.ymaxEditField = uicontrol(app.ResultsTab, 'text');
app.ymaxEditField.Position = [133 16 79 22];

% Create VmaxEditFieldLabel
app.VmaxEditFieldLabel = uicontrol(app.ResultsTab);
app.VmaxEditFieldLabel.HorizontalAlignment = 'right';
app.VmaxEditFieldLabel.Position = [346 58 36 22];
app.VmaxEditFieldLabel.Text = 'Vmax';

% Create VmaxEditField
app.VmaxEditField = uicontrol(app.ResultsTab, 'text');
app.VmaxEditField.Position = [418 58 79 22];

% Create VminEditFieldLabel
app.VminEditFieldLabel = uicontrol(app.ResultsTab);
app.VminEditFieldLabel.HorizontalAlignment = 'right';
app.VminEditFieldLabel.Position = [349 16 33 22];
app.VminEditFieldLabel.Text = 'Vmin';

% Create VminEditField
app.VminEditField = uicontrol(app.ResultsTab, 'text');
app.VminEditField.Position = [418 16 79 22];

% Create Mm1
app.Mm1 = uiaxes(app.ResultsTab);
title(app.Mm1, 'Mm (MN-m)')
xlabel(app.Mm1, '')
ylabel(app.Mm1, 'Depth m')
app.Mm1.PlotBoxAspectRatio = [1 2.32704402515723 1];
app.Mm1.YDir = 'reverse';
app.Mm1.XAxisLocation = 'top';
app.Mm1.Position = [188 112 151 310];

% Show the figure after all components are created
app.ShetPileWall.Visible = 'on';
end
end

% App creation and deletion
methods (Access = public)

% Construct app
function app = app2

```

```
% Create UIFigure and components  
createComponents(app)
```

```
% Register the app with App Designer  
registerApp(app, app.ShetPileWall)
```

```
if nargin == 0  
clear app  
end  
end
```

```
% Code that executes before app deletion  
function delete(app)
```

```
% Delete UIFigure when app is deleted  
delete(app.ShetPileWall)  
end  
end  
end
```