//Follow the video instruction to implement this code

//cloud Mask

function maskabr(image) {

// Bits 3 and 5 are cloud shadow and cloud, respectively.

var cloudShadowBitMask = (1 << 3);

var cloudsBitMask = (1 << 5);

// Get the pixel QA band.

var qa = image.select('pixel\_qa');

// Both flags should be set to zero, indicating clear conditions.

var mask = qa.bitwiseAnd(cloudShadowBitMask).eq(0)

.and(qa.bitwiseAnd(cloudsBitMask).eq(0));

return image.updateMask(mask);

}

//load the data

var landsat8= ee.ImageCollection ("LANDSAT/LC08/C01/T1\_SR")

.filterDate('2018-05-03', '2018-10-30')

.map(maskabr).median().clip(aoi).select(['B1', 'B2', 'B3','B4','B5','B6','B7'])

print(landsat8, 'bands')

//visualzation parameters

var neshan = {

bands: ['B4', 'B3', 'B2'],

min: 0,

max: 3000,

gamma: 1.4,

};

//display the map

Map.addLayer(landsat8,neshan, 'ع' )

// calculate NDVI

var NDVI = (landsat8.select('B5').subtract(landsat8.select('B4')))

.divide(landsat8.select('B5').add(landsat8.select('B4')))

var NDVI2 = landsat8.normalizedDifference(['B5','B4']).rename('NDVI')

var NDBI= landsat8.normalizedDifference(['B6','B5']).rename('NDBI')

// visualize NDVI

var visparam = {min:-1, max:1, palette: ['blue', 'white', 'green']};

//show the NDVI

Map.addLayer(NDVI2,visparam, 'NDVI' )

Map.addLayer(NDBI,visparam, 'NDBI')