

Codes:

```
const template = (name, fn) => {
  console.log(`*****${name}*****`);
  fn();
  console.log(`*****`);
};

const templiteral = () => {
  console.log('template literals');
  console.log(`Hai ${name}`);
};

const restspread = () => {
  console.log('rest spread');
  console.log('x ->', x);
  const { a, g, ...remain } = x;
  console.log(a, g);
  console.log(remain);
  const t = { ...remain, g: 'g', h: 'h' };
  console.log(t);
};

const cloningConst = () => {
  console.log("x->", x);
  const deepcopyjson = JSON.parse(JSON.stringify(x));
  const deepcopyObject = Object.assign({}, x);
  const shallowCopyrest = {...x};
  shallowCopyrest.a = 'xx';
  console.log('shallowcopy altered after assigning a -> xx');
  console.log('deepcopyjson', deepcopyjson);
  console.log('deepcopyObject', deepcopyObject);
  console.log('shallowCopyrest', shallowCopyrest);
};

function User(){
  this.userData = { firstName : "", lastName : "" };
  this.logclass = () => {
    console.log(this);
  };
  this.setName = (fn, ln) => {
    this.userData.firstName = fn;
    this.userData.lastName = ln;
    this.logclass();
  };
  this.printName = () =>{
    console.log(`Name: ${this.userData.firstName} ${this.userData.lastName}`);
    this.logclass();
  };
}

const callAsync = () => {
  return new Promise((res, rej) => {
    setTimeout(() => {
      res('test');
    }, 1000);
  });
};

const printNumber = () => {
  for (let i = 0; i < 5; i++) {
    console.log(i);
  }
};

const promiseExample = () => {
```

```

const fistname = 'Promise Example kalai ';
const lastname = 'chelvan';
console.log(fistname, lastname);
callAsync()
  .then((res) => {
    console.log('Response: ',res);
    console.log('After async print no execution')
    printNumber();
  })
  .catch((e) => {
    console.log('Error response:', e);
  });
});

const asycExample = async() => {
  console.log('async example start\nwait until timeout');
  const asyncres = await callAsync();
  console.log('timeout response : ',asyncres);
  console.log('Async example end');
};

const name = "kalai";
let x = {
  a : 'a', b : 'b', c : 'c', d:'d', g : 'g',
};
const userobj = new User();

const main = () => {
  asycExample();
  // promiseExample();
  // userobj.setName('kalai','chelvan');
  // userobj.printName('kalai','chelvan');
  // template('cloning const',cloningConst);
  // template('rest spread',restspread);
  // template('template literal',templiteral);
  // template('',);
};

main();

```