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2. □□□□□□□□□□□

HTML5

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HTML5 □□□□

```
<header></header>
<footer></footer>
<article></article>
<aside></aside>
<nav></nav>
<section></section>
```

□□□□□□□□□□□

HTML □□

- `<video></video>` □□
  - □□□controls □□□□□□
  - □□□autoplay □□□□
  - □□□loop □□□□□□□
- `<audio></audio>` □□
  - □□□controls □□□□□□
  - □□□autoplay □□□□
  - □□□loop □□□□□□□

```
    <video>
       <source src="code/□□□□□/trailer.mp4">
       <source src="trailer.ogg">
       <source src="trailer.WebM">
    </video>
```

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```
<input  type="email">
<!--
 email: □□□□□□□□□□
 url□  □□□□□□□□
 number□ □□□□□□□
 range□ □□
 color□ □□□
 date□ □□□□
 month□ □□□□
 week □ □□□□□
 time□  □□□□
-->
```

□□□□

- form□□□
  - autocomplete=on | off □□□□
  - novalidate=true | false □□□□□□
- input□□□
  - *autofocus □ □□□□□□

- form□
- multiple□ □□□□□□□ - *placeholder □ □□□ □□□□□□□* - required□ □□□
- list

```
<input type="text" list="abc"/>
<datalist id="abc">
    <option value="123">12312</option>
    <option value="123">12312</option>
    <option value="123">12312</option>
    <option value="123">12312</option>
</datalist>
```

API

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```
//□□□□□ □□□css□□□□□□□□□□
//□□□□□□□□□□□□□□□□□□□□
document.querySelector("□□□")□

//□document.querySelector□□□ querySelectorAll □□□□□□□□□□□□□□□□
document.querySelectorAll("□□□");

Dom.classList.add("□□"); //□□□dom□□□□□□□□

Dom.classList.remove("□□"); //□□□dom□□□□□□□□

classList.contains("□□"); //□□□□□□□□□□

classList.toggle("active");  //□□□□□□□□□□□□□□□□□□□□□
```

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- data-□□□□□□□□□□□□□□□data-□□□□□
  - □□□□□□□□ Dom.dataset □□□□□□□□□
  - Dom.dataset.□□□ □□ Dom.dataset[□□□][1]
  - Dom.dataset.□□□□□□=□ □□ Dom.dataset[□□□□□□]=□□

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```
  FileReader
        FileReader              □□□3□□□□□□□□□□□□□□□□□result□
          readAsBinaryString     ---□□□□□□□□□□□□□□
          readAsText            ---□□□□□□□□□□
          readAsDataURL            ---□□□□□□□DataURL

 FileReader □□□□□□□□
       onabort         □□□□□□
       onerror         □□□□□□
       onload         □□□□□□□□□□□□□□
       onloadend     □□□□□□□□□□□□□□□□□□□□
       onloadstart     □□□□□□□□□
       onprogress     □□□
```

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- □□□□□□□□□□

  ```
        window.navigator.onLine □□□□□□□□
  ```

- □□□□□□□

  ```
        1. window.ononline
              2. window.onoffline
  ```

□□□□□□

1. □□□□□□□□□□

   ```
   window.navigator.geolocation.getCurrentPosition(success
   1. coords.latitude   □□
   2. coords.longitude   □□
   ```

2. □□□□□□□□□□

   ```
    window.navigator.geolocation.watchPosition(success,err
   ```

□□□□

- localStorage□
  - □□□□

    - □□□□□□
    - □□□□□□20M

```
window.localStorage.setItem(key,value)  //□□□□□□□
window.localStorage.getItem(key)          //□□□□□
window.localStorage.removeItem(key)     //□□□□□
window.localStorage.clear()            //□□□□□
```

- sessionStorage□
    - □□□□□□□□□□□□□□□□□
    - □□□□□□□□□□□□□
    - □□□□□□5M□□

```
window.sessionStorage.setItem(key,value)
window.sessionStorage.getItem(key)
window.sessionStorage.removeItem(key)
window.sessionStorage.clear()
```

Canvas

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```
<canvas id="myCanvas" width="200" height="100"></canvas>
<script type="text/javascript">
    var ctx=document.getElementById("myCanvas");
    ctx.moveTo(x,y)    //□□
    ctx.lineTo(x,y)    //□□
    ctx.stroke();       //□□
    ctx.beginPath();  //□□□□□□□
</script>
```

- □□□ strokeStyle="□"
- □□□ linewidth="□" □□□□□□□□□□
- □□□□□□ lineJoin: round | bevel | miter (□□)
- □□□□□□□□□□□□□□□ lineCap: butt(□□□) | round | square

```
ctx.closePath(); //□□□□
```

□□□□

□□□□

```
var grd=ctx.createLinearGradient(x0,y0,x1,y1);
```

- x0-->□□□□□x□□
- y0-->□□□□□y□□
- x1-->□□□□□x□□
- y1-->□□□□□y□□

```
grd.addColorStop(0,"black");       //□□□□□□□□□□
grd.addColorStop(0.1,"yellow");    //□□□□□□□□□□
grd.addColorStop(1,"red");         //□□□□□□□□□□
ctx.strokeStyle=grd;
ctx.stroke();
```

- □□□□□□□□□□□□□□□□□□□□□□□□0-1□□□0□□□□□□1□□□□□□□□□□□□□□□□□□□□

□□□□

```
   ctx.createradialGradient(x0,y0,r0,x1,y1,r1);
```

- (x0,y0)□□□□□□□□□ x,y □□
- r0□□□□□□□□
- (x1,y1)□□□□□□□□□ x,y □□
- r1□□□□□□□□

□□□□

```
   ctx.fill();          //□□□□□□□
   ctx.fillstyle="□"; //□□□□□□□
```

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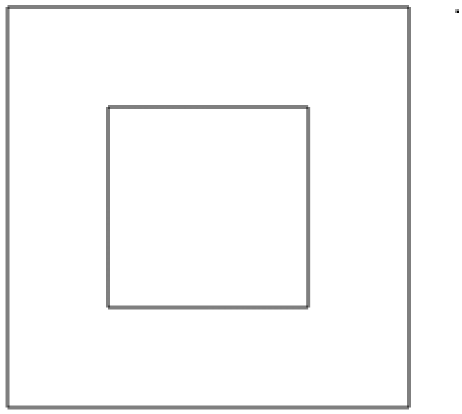
□□□□□□□□□



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    - □□□□□□□□□□□□□□□□□□□□□□□□□□□□□
    - □□□□□□□□□□□□□□□□□□□□+1□□□□□□-1□□□□□□□□□□0□□□□□□
    - □□□□□□

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1. □□□

   □□□□□□□□□□□□□□□□□□□□□□□,□□□□□□□□□□□

   □□□ [10,10] □□□□10px □□□□10px

   □□□ [10,5] □□□□10px □□□□5px

   □□□ [10,5,20] □□□□10px □□5px □□20px □□□□10px □□5px □□ 20px....

2. □□□

```
ctx.setLineDash(□□);
ctx.stroke();
ctx.moveTo(100, 100);
ctx.lineTo(300, 100);
ctx.setLineDash([2,4]);
ctx.stroke();
```

   □□□ □□□□□□□□□□□□□□□□□□□□□□□□□

□□□□□□

□□□□□□□□□ `content.strokeRect(x,y,width,height)`

□□□□□□□□□ `content.fillRect(x,y,width,height)`

□□□ `content.clearRect(x,y,width,height)`

□□□□□□□

1. □□□
2. □□□□
3. □□□□

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□□□□□□

```
content.fillText(□□□□□,x,y)
```

□□□□□□

```
content.strokeText();
```

□□□□□□□

```
 content.font="20px □□□□"
```

□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□

```
content.textalign="left | right | center"
```

□□□□□□□□□

```
content.textBaseline="top | middle | bottom | alphabetic(□□
```

- □□□□□□
  - ctx.shadowColor="red"; □□□□□□□□□□
  - ctx.ShadowOffsetX=□; □□□□□□□□□□□□
  - ctx.shadowOffsetY=□; □□□□□□□□□□□□
  - ctx.shadowBlur=□; □□□□□□□□□□

□□□□

```
//□□□□□□□□□□□□□□
content.drawImage(□□□□,x,y);
//□□□□□□□□□□□□□□□□  x,y□□□□□□□□□□□□width□height□□□□□□□□□□
content.drawImage(□□□□,x,y,width,height);
content.drawImage(□□□□,sx,sy,swidth,sheight,dx,dy,dwidth
```

- sx,sy □□□□□□□□□□□□□□□□□□
- swidth□sheight □□ □□□□□□□□□□
- dx,dy □□□□□□□□□□□dwidth,dheight□□□□□□□□□□

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□□□□

```
content.arc(x,y,radius,startradian,endradian[,direct]);
```

1. x,y □□□□□
2. radius □□
3. startradian □□□□
4. endradian □□□□
5. direct □□□□□□□□ false□ true □□□□□

□□ □ □□□□□□ **□□:□□= 180:pi**

- 0□□: □□□□□□□□□0□ □□□□□□□□□□□
- □□□

  ```
  0□ = 0□□

  30□ = π/6   (180□□□□□□)

  45□ = π/4

  60□ = π/3

  90□ = π/2

  180□ = π

  360□ = 2π
  ```

  □□□□□□□□

- □□□

- x=ox+r*cos(□□)
- y=oy+r*sin(□□)
- ox: □□□□□
- oy: □□□□□
- r□ □□□□

□□□□□□□□□□□□

```
ctx.translate(x,y);
```

- □□□□□□□□□□□□□□
- translate(x,y) □□□□□□
- □moveTo(x,y) □□□
    - moveTo(x,y) □□□□□□□□□□□□□□□□□□□□□□□□
    - translate(x,y) □□□□□□□□□□□

□□□□□□□□□

```
ctx.rotate(□□)
```

□□

```
 ctx.scale(x,y)
```

□□□ □□x□□y□□□ x,y □□□ □□□ 0.5 1

> 1. □□□□□□□data-** ↩

CSS3

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□□

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```
background-origin□
    padding-box    □□□□□□□□□□□□□□□□
    border-box       □□□□□□□□□□□□□□□□□□□□□□□□□□
    content-box    □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□
```

□□□1. □□□□□□□□□□□□□□□□□□□□□□□□□□

□□□□□□□□□

```
background-clip□
     border-box          □□□□□□□□□□□□ □□□□□□□□□□□□□□□
     padding-box     □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□
     content-box     □□□□□□□□□□□□□□□□□□□□□□□□
```

□□□□□□□□□

```
background-size□
     cover
     contain
```

□□

- box-shadow□ □□□□
- border-radius□ □□□□
- border-image: □□□□

```
/* □□□□□□□ */
border-image-source: url("2.png");

/* □□□□□□□ : □□□□□□□*/
border-image-slice: 20;

/* □□□□□□□□□□□□ */
/* border-image-repeat: stretch; */
border-image-repeat: round;
/*  border-image-repeat: repeat; */

border-image-width: 20px;
```

□□

```
  text-shadow□ □□□□□□
```

□□□

1. □□□□□□□ [□□□=□] {} [□□□] {} □□□□□□□□□ [□□□^=□] {} □□□□ [□□□*=□] {} □□ [□□□$=□] {} □□□□
2. □□□□□□□□□

   ```
   `:first-child {}`     □□□□□□□□□□□□□□□
   ```

   `:last-child {}` □□□□□□□□□□□□□□□ `:nth-child(n) {}` □□□□□□ □□□□n□□□□ `:nth-last-child(n) {}` □□□□□□□□□□n□□□□

   - □□□
     - n □□□□□□□□0
     - n □□□□□□□□□□
     - odd[□□□□□□□□□□]
     - even□□□□□□□□□□□□
     - n □□□□□□□□□□ an+b□□□

   i. □□□□□□□ `:target` □□□□□□□□□□□□□□□□□□□ `::selection` □□□ □□□□□□□□□□ `::first-line` □□□□□□ `::first-letter` □□□□ □□□

[illegible]

- [illegible]

  1. [illegible]
  2. [illegible]
  3. [illegible]

     ```
     background-image:  linear-gradient(
                   to right,
                   red,
                   blue
           );
     ```

     [illegible]

  4. to + right | top | bottom | left
  5. [illegible] 0deg [[illegible]] 90deg[illegible]

- [illegible]

  ```
  /* [illegible] */
  background-image: radial-gradient(
      100px at center,
      red,
      blue
  );
  ```

2D[illegible]

- [illegible] `transform: translate(100px,100px);`
  - [illegible] [illegible]
- [illegible] `transform: rotate(60deg);`
  - [illegible] [illegible]
- [illegible] `transform: scale(0.5,1);`
  - [illegible]0[illegible]1[illegible]1
- [illegible] `transform: skew(30deg,30deg);`
  - [illegible]
    1. [illegible]x[illegible]
    2. [illegible]y[illegible]

3D[illegible]

- □□ `transform: translateX() translateY() translateZ()`
- □□ `transform: rotateX(60deg) rotateY(60deg) rotateZ(60deg);`
- □□ `transform: scaleX(0.5) scaleY(1) scaleZ(1);`
- □□ `transform: skewX(30deg) skewY();`
- □□□□□□□□□□□□□ `transform-style: preserve-3d;`

□□

□□

```
/* □□□□□□□□□□□□□□□□□□□□□□ all */
transition-property: all;

/* □□□□□□□□□ */

transition-duration: 1s;

/* □□□□□□□□□□□ */
transition-delay: 1s;

/* □□□□□□□□□□ */

transition-timing-function: linear;
```

□□□□□

```


/* 1□□□□□ */
@keyframes  rotate {

    /* □□□□□□□  0%*/
    from {
        transform: rotateZ(0deg);
    }

    /* □□□□ 100%*/
    to {
        transform: rotateZ(360deg);
    }
}
```

□□□ □□□□□□□□□□□□□□□□□□□□□□□□□□

□□□□□□□

- □□□□□□□□□□□□□□

  ```
  display□ flex
  ```

  □□□□□□□□□□□□□□□□□

  1. □□□□□□□□□□□□□□
  2. □□□□□□□□□□
  3. □□□ □□□□□□□□
  4. □□□ □□□□□□
- □□□□□□□□□flex-direction□

  ```
  flex-direction: row;
  flex-direction: row-reverse;
  flex-direction: column;
  flex-direction: column-reverse;
  ```

- □□□□□□□□□□(justify-content)

  ```
  /* □□□□□□□□□□ */
  justify-content: flex-start;
  justify-content: flex-end;
  justify-content: center;
  justify-content: space-between;
  justify-content: space-around;
  ```

- □□□□□□□□□□ □align-items□

  ```
  align-items: flex-start;
  align-items: flex-end;
  align-items: center;
  /* □□□ */
  align-items: stretch;
  ```

- □□□□□□□□□flex-wrap□

  1. □□□□□□□□□□□□□□□□□
  2. □□□□□□ `flex-wrap: wrap | nowrap;`
- □□□□□□□□□□ align-content□

□□

```
align-content: flex-start;
align-content: flex-end;
align-content: center;
align-content: space-around;
align-content: space-between;
/* □□□□□□□□ */
align-content: stretch;
```

JS□□

□□□□

- □□□□□□——□□□□(□□□□□□□□□□□null□undefined)
- □□□□□□——□□□□□(□□)
  - □□
  - □□
  - □□□□□
  - Date

□□□□□□□

□□□□□□

```
var student={
    name:"□□" , //student□□□name□□□□□"□□"
    grade:"□□" ,
    //a□student□□□say□□□□□□□□□
    //b□student□□□say□□
    say:function(){
        console.log("□□");
    },
    run:function(speed){
        console.log("□□□"+speed+"□/□□□□□□");
    }
}
```

□□□□□□□□□□□□□□□□□□□□□□□□ (ps□□□□□□□□□□□□□□□□□□□□□□□□□□□□□)

- name□□□ grade□□□
- say□□□ run□□□

□□□□□□

□□□□

□□□□□□.□□

- `student.name` □□□ `name` □□□□
- `student.say` □□□□□□□

□□□□□□[]□□

- `student["name"]` □□□ `student.name`
- `student["say"]` □□□ `student.say`

□□□□□□□□

- .□□□□□□□□□□□□(□□□□)
  - .□□□□□□js□□□□□□□□□□(class□this□function□□□)
  - .□□□□□□□□□

    ```
    var obj={};
    obj.this=5; //□□□□
    obj.0=10;   //□□□□
    ```

- []□□□□□
  - o1[□□name]
  - ["class"]□["this"]□□□□□□□ `obj["this"]=10`
  - `obj[3]=50 = obj["3"]=50`
  - `["[object Array]"]` jquery□□□□□□□□□
  - `["{abc}"]` □□□□□□ `{abc}` □□

□□□□

- `student["gender"]="□"` □□□ `student.gender="□"`
  - □□□□□student□□□□□gender□□□□□□□□gender□□□□□"□"
  - □□student□□□□gender□□□□□□gender□□□□□"□"
- □□1□ `student.isFemale=true`
- □□2□ `student["children"]=[1,2,5]`
- □□3□

```
student.toShanghai=function(){
    console.log("□□□□□□□□□□")
}
```

□□□□

- delete student["gender"]
- delete student.gender

□□□□□□□□□□

□□□□□□□□□□□□

- `var xiaoming = new Object()` --> `var xiaoming = {};`
- `var now = new Date()`
- `var rooms = new Array(1,3,5)` --> `var rooms = [1,3,5]`
- `var isMale=/123/;` ==> `var isMale=new RegExp("123")`
  - isMale□□□RegExp□□□□□□□□□□□□
  - isMale□RegExp□□□□□□□
- □□□□□□Object□Date□Array□□□□□□□□□

□□□□□□□□□□□□□□□

- □□□□

```
function Person(name,age){
    this.name=name;
    this.age=age;
}
var p1=new Person("□□",18)
```

- □□□ `p1□□□□□Person□□□□□□□□□□□□`

□□□□□□□

- □□□□□□□□□□□□□□ `function CreateFunc(){ }`

- □□□□□□□□□new□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□
    - new CreateFunc(); □□CreateFunc□□□□□□□□
    - CreateFunc(); □□□CreateFunc□□□□□□□
- new Object()□□□□□□□□{}

□□□□□□□□□

1. □□□□□`var p1=new Person();` (□□□□□□□□Person□□□□□□□)- `_p1`
2. □□□□□□□`this` □□this□□□□(_p1)
3. □□□□□□□□□□□□this□□□□□□□□□(_p1)
4. □□□

    - a□□□□□□□□(□□return□□)□□□□□□□□□□□(p1)
    - b□□□□□□□□□□□□□□□□□□□□□□□□□□□□□(_p1)

    ```
    function fn(){
    }
    var f1=new fn();    //f1□□fn□□□

    function fn2(){
        return "abc";
    }
    var f2=new fn2();   //f2□fn2□□□□□□□
    ```

    - c□□□□□□□□□□□□□□□□□□□□□□□□□□□

    ```
    function fn3(){
        return [1,3,5];
        //□□□□□□□□□□□□
        //□□□□□□□□□□□□□□□
        //□□□□□□□□□□□□□□□□□
        //□□□fn3□□□□□□□
    }
    var f3=new fn3();   //f3□□fn3□□□□□□□
    //f3□□[1,3,5]
    ```

5. □□□□□□□□□□□□□□□

    □□□□□

    - □□□□□□□□□□□□□□□□null□undefined
    - □□□□□□5□□□□□□□□□

6. □□□□□□□□□□□□

    String□□□□□□□□a□String() b□new String()

    □□□□□□new□□□□□□new□□□□□□□□□□□□□□□□□

7. □□□□□□□□□□□□□□□□□□□□□□□□□□□

   var isTrue=xxx instanceof Person

8. □□□□xxx□□□□□□□□□□□□□

   xxx.**proto**□□□□□□□□□□□□□□□□□□constructor□□□□□□□□PPP□□□xxx□□PPP□□□□□

9. typeof□□□□□□□□□□□□□□□□

□□

□□ `□□□□□□xxx extends yyy`

□□□□□□□□□□

□□□□□□□□(□□□□□□)□□□

```
function Person(){
    this.say=function(){
        console.log("□□")
    }
}
var p1=new Person();

var p2=new Person();
console.log(p1.say === p2.say);   //false
```

□□□□□1

```
Person.prototype.say=function(){
    console.log("□□")
}
```

□□□□□1□2□□□□□□□□□□□□□□□□□□□□□□□□□□

□□□□□2

```
Person.prototype={
    constructor:Person,
    say:function(){
        console.log("□□");
    },
    run:function(){
        console.log("□□□□□□□□");
    }
}
```

□□□

- a□□□□□□□□□□□□□□□□□
- b□□□□□□□□□□□□□□constructor□□□□□□□□□□□□□□

□□□□(□□□□)

□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□

```
var o1 = {age:2};
var o2 = o1;
o2.age = 18;
```

1. □□□o2□□□age
2. o2□□□o1□□□□□□□□
3. o1□□□age□□□□□□□

□□□□□□□□□□□□□□□□□□□□□□□□□□

```
var o3 = {gender:"□",grade="□□",group:"□□□",name:"□□"};
var o4 = {gender:"□",grade="□□",group:"□□□",name:"□□"};
```

1. □□□□o3□□

2. □□o3□□□□□□for...in□□

   ```
    //a. □□o3□□□□□□□
   for(var key in o3){
       //key□o3□□□□□
       //b. □□□□□□□□
       var value = o3[key];
       //c. □□□□□□o4
       o4[key] = value;
   }
   ```

3. □□□□□□□□□□□□name□□“□□”

   ```
   o4.name="□□"□
   ```

□□□□□□□

- □□□□□□□□□□□□□□□□□□
- □□□□□□□□□□□□□□□□□□□□□□□□□□□□

□□□

```
var source={name:"□□",age:15}
var target={};
target.name=source.name
target.age=source.age;
```

□□□
□□□□□□□□□

```
function extend(target,source){
        for(key in source){
            target[key]=source[key];
        }
        return target;
}
extend(target,source)
```

□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□

- jquery□ `$.extend`
- es6□□□□□□□□□□□□□□□□□□□□□□□□□

  ```
          var source={name:"□□",age:15}
          var target={ ...source }
          var target2={...source,age:18}
  ```

□□□□□

- □□□
  - □□□□□□□□□
  - □□□□□□□□□□□□□□□□

    ```
    var parent = {age:18,gender:"□"};
    var student = Object.create(parent);
    console.log(student)
    ```

- □□□□□
  - □□□□Object.create(null)

```
var o1={ say:function(){} }
var o2=Object.create(o1);
```

`var o3={}` o3□□□□

□□□□□□□□□□

- □□□□□□□2□□□□□□□□□□□□□□□□□□
- □□□□□□□call□apply□□□□
- □□□□Animal□□□□□□□□□□□□□□□□□□□□□Person□□□□□□□□□

```
function Animal(name,age,gender){
    this.name=name;
    this.age=age;
    this.gender=gener;
}
function Person(name,age,gender,address){
    // Animal.call(this,name,age,gender);
    //□□□
    Animal.apply(this,[name,age,gender]);
    //this.name=name;
    //this.age=age;
    // this.gender=gender;
    this.address=address;
}
```

- □□□□□□□□□□□□

□□□□□□□□□

- □□□JS□□□
- □□□□□
  - □□□□□□□□□□□□□□□□**proto**□□□□□□□□□□□ -□□□□□□□□□□□□□□□□□□□□□□□□□□□□□
- □□□□ `Object.prototype`
  - var arr=[1,3,5]
  - arr.**proto**□Array.prototype
  - arr.**proto**.**proto**□□□□□□

```
function Animal(){}
var cat=new Animal();
//cat.__proto__□Animal.prototype
//cat.__proto__.__proto__:□□□
```

- □□□□□□□□□□□Object□

□□

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- □□□□□□□□□□□□□□□□□□□□□
- JS□□□□□□□□□□□□□□□□□□□□□
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```
var age=18;//age□□□□□□□
function f1(){
  var name="□□";//name□f1□□□□□□□□□□□□□□□□f1□□
  console.log(name);//□□□□□name□□
  console.log(age);//age□□□□□□□□□□□□□□
}
console.log(age);//□□□□□
```

```
  //□□□□□
  //1□□□□
  var gender="□";
  function fn(){
      console.log(age);//age:undefined undefined□□□□□□□
      console.log(height);//height□□□□□□□□□□□□□□□□□□
      //2□□□□
      return function(){
         //3□□□□
          var height=180;
      }
      var age=5;
  }
```

□□□
- □□□□□□□□□□□□□□□□□□□□
- fn□□□ undefined --□□□□□
- □□□□□□□□□□□□□□□□□□□□□□□□□

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- □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□
  □□□□□□□□□□□□□□□□□□□
- □□□□□□□□□□□□□□□□□□□□□
- □□□□□□□□□□□□□□□□(□□□□□□□□□□□□□□)
  1. □□□□□□□□□□□□□□□□□□□□□□
  2. □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□
  3. □□□□□□□□□□□□□□□□□
  4. □□□□□□□□□□□□□□□□□□□(xxx is not defined)

```
function fn(callback){
var age=18;
callback();
}
fn(function(){
console.log(age);
//□□□age□□
//1.□□□□□□□□□□
// 2.□□□□□□□□□□□□□□
})
```

  □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□
  □□□□□□□□

- □□1□

```
    var name="□□";
    function f1(){
        var name="abc";
        console.log(name);
    }
    f1();
```

- □□2□

```
    var name="□□";
    function f1(){
        console.log(name);
        var name="abc";
    }
    f1();
```

- □□3□

```
var name="□□";
function f1(){
    return function(){
        console.log(name);
    }
    var name="abc";
}
var fn=f1();
fn();
```

- □□4□

```
var name="□□";
function f1(){
    return {
        say:function(){
            console.log(name);
            var name="abc";
        }
    }
}
var fn=f1();
```

□□□□□

```
function fn(){
    var a=5;
    return function(){
        a++;
        console.log(a);
    }
}
var f1=fn();
//□□□□□□□□fn□□□□□□□□□□□□□
// □□□□□□□□□□□□□□□□□□□□□
// □□□□□□□□□□js□□□□□□□□□□□□□a□□
//□□a□□□□□□□□□□
// □□□a□□□□□□□□□□□□□□□□□□□□□□
f1();//6
f1();//7
f1();//8
```

```
function q2(){
    var a={};
    return function(){
        return a;
    }
}
var t3=q2();
var o5=t3();
var o6=t3();
console.log(o5==o6);//true
var w3=q2();
var o8=w3();
console.log(o5==o8);//false
```

□□□□□□□□□□

- □□□□□□□□□□□□□□□□□□□□□□□□□□a□□□□
- □□□□□□□

```
function f1(){
    var a=5;
    return function(){
        a++;
        console.log(a);
    }
}
var q1=f1();
//□□□□q1□□□□□□a,□□□□□□□q1
q1=null;//q1=undefined;
```

□□□□□□□□

- □□□
- □□□□□□□□

□□□4□□□□□

1. □□□□

```
var age=18;
var p={
    age:15,
    say:function(){
        console.log(this.age);
    }
}
var s1=p.say;
s1();//□□□□--> this: window □□18
```

□□□□□□□□this□□window

2. □□□□

```
var age=18;
var p={
    age:15,
    say:function(){
        console.log(this.age);
    }
}
p.say(); //□□□□15
 //
function Person(){
    this.age = 20;
}
Person.prototype.run=function(){
    console.log(this.age);
}
var p1=new Person();
p1.run(); //□□□□20
 //
var clear=function(){
    console.log(this.length);
}
var length=50;
var tom={c:clear,length:100};
tom.c();//□□100 this□□tom
```

□□□□□clear□□□□□tom.c()□□□□□□□□□□□□□□□□□□□this□□□□□□□□□□□□tom

3. new□□□□□□□□

```
//1
function fn(name){
    this.name=name;
}
//□□new□□□□□□□□□□□□□□□□□□□□□□□□□□
var _n=new fn("□□");
//2
function jQuery(){
    var _init=jQuery.prototype.init;
    return new _init();
}
jQuery.prototype={
    constructor:jQuery,
    length:100,
    init:function(){
         //1.this□□init□□□□□□□
         //2.□□□□□□□□□□□□□□□□□□□□□□□□□□□
         //3.□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□(Objec
         //4.□□□□□□□ □□□□□□□□undefined
        console.log(this.length);
    }
}
jQuery.prototype.init.prototype=jQuery.prototype;
jQuery();//□□□100
```

4. □□□□□□call,apply,bind□

```
var name=21;
function f1(){
    console.log(this.name);
}
f1.call([1,3,5]);
f1.apply(this);
f1.call(5);
//□□
//call□□□□□□□□□□
//1.□□□□□□□□□□□□□□□□□□□□this□□□□
//2.□□□undefined□null,□□□□□□□this□□window
//3.□□□□□□-->this□□new Number(□□)□□□□□-->this□□new String

//bind□ES5(ie9+)
var obj={
    age:18,
    run:function(){
        setTimeout((function(){
            console.log(this.age)
        }).bind(this),500)
        //□□□□□□bind□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□this□□□□□□c
    }
}
obj.run();
//bind□□□□□
function speed(){
    console.log(this.seconds);
}
//□□bind□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□this□□{se
var speedBind=speed.bind({seconds:100});
speedBind();//□□100
```

- call□apply□□□□□□□□□□□this□□
- □□□□□□□□

```
    function toString(a,b,c){
        console.log(a+" "+b+" "+c);
    }
    toString.call(null,1,3,5);
    toString.apply(null,[1,3,5])
```

□ES6□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□this□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□

5. bind□□□□

```
        //target□□□□□□□□□□this□
        Function.prototype._bind=function(target){

            //□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□
            return ()=>{
                //□□fn□□□□□
                this.call(target)
            }
            //□□□
            // var _that=this;
            // return function(){
            //     _that.call(target);
            // }
        }
        function fn(){
            console.log(this);
        }
        var _fn=fn.bind({age:18});
```

6. bind□□□□□□□□□□□ `fn.__proto__ === fn□□□□□.prototype`
7. □□□□□□□□□□□□□□□□Function

ES6(□□□□□□□□)

□□□□□

□□□□□□□□□□□□

```
    //□□□□□
    var s1 = ` abc `
    var s2 = " abc "
    //□□□□□□□□□□□□□□□□
    //□□□□□□
    var s3=" a "+s1+" b "+s2;
    var s4=` a ${s1} b ${s2}`
    var s5=`<div>
                <p>
                    <span>222</span>
                    <span>${s1}</span>
                    <span>${s2}</span>
                </p
            </div>
            `
```

□□□□

□□□□□□□□

```
var obj={name:"□□",age:18}

var {name,age}=obj;
//□□2□□□□
//  name□□□□obj.name□
//  age□□□□obj.age

var {name:title}=obj;
//□□□□□□□□title□□□□□□obj.name
```

□□□□□□□□□□□

```
function f1(obj){
    console.log(obj.age);
    console.log(obj.height)
}
//□□□
function f1({ age,height }){
    console.log(age);
    console.log(height)
}

f1({age:5,height:180})
```

□□□□□□□□□

```
var a = 3 ;
var c = 10;
var b = { a,c } ;
//b□□□□□a□□□a□□□□□□□□□a□□  □
//□□□□c□□□c□□□□□□□□c□□
console.log(b);//{a: 3, c: 10}
```

□□□□□

rest□□

- □□□□□es6□
- □□□arguments□□□□□□rest□□□□□□

```
function fn(...args){
    //□□args□□□□□□
    console.log(args instanceof Array);//true
    console.log(Object.prototype.toString.call(ar
    console.log(Array.isArray(args));
    console.log(args);  //□□□[1,2,3,4,5]
}
fn(1,2,3,4,5)
```

- □□□□□□□
  - typeof□□□□□□□□□□□□□□□□□□□□undefined□□□
  - `Object.prototype.toString.call()`
  - Array.isArray()
  - isNaN()
  - isInfinity()

□□□□

- □□□□□□□□□□□□□□
- □□□□□□

```
//□□□□
div.onclick=function(){
    console.log("□□")
}
//□□□□
div.onclick=()=>{
    console.log("□□")
}
```

- □□□□□□□□□□□□

```
var fn=(a)=>{
    console.log("abc");
}
//□□□□
var fn=a=>{
    console.log("abc");
}
```

- □2□□□□□□□□□□□□

```
var f=(a,b,c)=>{
    console.log("abc")
}
```

- □□□□□□□□□□□□□□□□□□□□

  - □□□□□□this□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□
  - □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□new□□□□□□□□□□□□□□□□
  - □□□□□□arguments□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□ rest □□□□□□
  - □□□□□□□□□□□□yield□□□□□□□□□□□□□□□□ Generator □□□

    - generator□□□□□□□□async□□

```
var p={
age:18,
run:()=>{
  setTimeout(()=>{
      console.log("run",this);//this□□window
  },100)
},
say(){
  setTimeout(()=>{
      console.log("say",this);//this□□p
  },100)
},
//□□□□□□□□
travel:function(){
  setTimeout(()=>{
      console.log("travel",this);//this□□p
  },100)
}
}
```

□□□□□

- `Object.assign` □□□□□□□□

```
var source={age:18,height:170,className:"□□□"};
var newObj=Object.assign({},source);
```

- □□□□□□□□

```
var obj1={ age:5,gender:"□" }
var obj2={ ...obj1 }
var obj3={ ...obj1 , age:10 }
var s1=[1,3,5,7,9];
var s2=[...s1];
```

Promise

□□□□□promise□□□□□□□□□□

□□□□

```
$.get("/getUser",function(res){
    $.get("/getUserDetail",function(){
        $.get("/getCart",function(){
            //...
        })
    })
})

function f1(){
    return new Promise((resolve)=>{
        setTimeout(()=>{
            console.log("□□□");
            //□□□□□□□□□□□□□□□□□□□□
            resolve();
        },1000)
    })
}
function f2(){
    return new Promise((resolve)=>{
        setTimeout(()=>{
            console.log("□□□");
            //□□□□□□□□□□□□□□□□□□□□□□□□□□
            resolve();
        },1000)
    })
}
f1().then(res=>{
    //return promise□□
   return f2();
}).then(res=>{
    setTimeout(()=>{
        console.log("□□");
    },1000)
})
```

Promise□□□□□□

```
var promise=new Promise((resolve,reject)=>{
    $.get("/getUser",res=>{
        resolve(res)
    })
})
promise.then(res=>{
    console.log(res);
})
```

Promise□□□□□□□□

```
new Promise((resolve,reject)=>{
    $.get("/getUser",res=>{
        resolve(res)
    })
}).then(res=>{
    //□□□□□□□
    return new Promise(resolve=>{
        $.get("/getUserDetail",res=>{
            resolve(res)
        })
    })
}).then(res=>{
    //□□□□□
    return new Promise(resolve=>{
        $.get("/getCart",res=>{
            resolve(res)
        })
    })
}).then(res=>{
    //□□□□□□
})
```

Promise□□□□□□

- □□□□□□

```
new Promise((resolve,reject)=>{
    $.ajax({
        url:"/getUser",
        type:"GET",
        success:res=>{
            resolve(res);
        },
        error:res=>{
            reject(res)
        }
    })
}).then(resSuccess=>{
    //□□□□□□□
},resError=>{
    //□□□□□□□
})
```

- □□□□□□□□□□□□□□□□reject□□□□□□□□□□□□□□□□□□□□□

```
new Promise((resolve,reject)=>{
    $.ajax({
        url:"/getUser",
        type:"GET",
        success:res=>{
            resolve(res);
        },
        error:res=>{
            reject(res)
        }
    })
}).then(resSuccess=>{
    //□□□□□□□
}).catch(resError=>{
    //□□□□□□□
})
```

async

await□□□□□□□□□□□□await□□□async□□□□□

```
function f1(){
    return new Promise((resolve)=>{
        setTimeout(()=>{
            console.log("□□□");
            //□□□□□□□□□□□□□□□□□□□□
            resolve();
        },1000)
    })
}
(async function(){
    await f1();
    console.log("□□□");
})()

async function get(){
    console.log('□□□□');
    var res = await timer()
    console.log('□□□□□',res);
}
function timer(){
    return new Promise((resolve,reject)=>{
        setTimeout(()=>{
            resolve("□□");
        },1000)
    })
}
get();
```

□□□□□□□□□try-catch

```
function q(){
    return new Promise((resolve,reject)=>{
        setTimeout(()=>{
            reject("□□");
        },1000)
    })
}
(async function(){
    try{
        let res=await q();
        console.log(res);
    }catch(e){
        console.log(e);
    }
})()
```

class

□□□□□

```
class Person {
    constructor(name,age) {
        this.name=name;
        this.age=age;
    }
}
//□□□□
function Person(name,age){
    this.name=name;
    this.age=age;
}
```

□□□□□□

```
//□□□class□□□□□□
function Person(){

}
Person.prototype.run=()=>{
    console.log("run");
}
//□□class□□□□□□
class Person {
    constructor(name,age) {
        this.name=name;
        this.age=age;
    }
    //□□□□
    say() {
        console.log("□□□□□□□□"+this.name+"□□□□"+this.age
    }
    travel(){
        console.log("□□□□□□□□□");
    }
}
```

□□□□□□

```
class Animal {
    constructor(){

    }
    static age=18;
    static born(){
        console.log("□□□□□□□")
    }
}
//□□□□□□□
Animal.born();
console.log(Animal.age);
```

□□□□

```
class Person {
    constructor(name){
        this.name=name;
    }
}
class Student extends Person {
    constructor(name,grade){
        super(name);    //□□□□□□□□□
        this.grade=grade;
    }
}
```

module

□□□□

- □□□□□

```
//common.js
export default { name:"abc" }
```

- □□□□□

```
//b.js
import common from "common.js"

console.log( common.name ) //"abc"
```

□□□□□□□

```
//person.js
export const jim = { country :"France" }
export const tony = { color:"gray" }
//□□□□□
export default { name:"abc" }
```

```
//index.js
import person , { jim , tony } from "person.js"

//person□{ name:"abc" }
//jim□{ country :"France" }
//tony□{ color:"gray" }
```

□□□□□□□□□

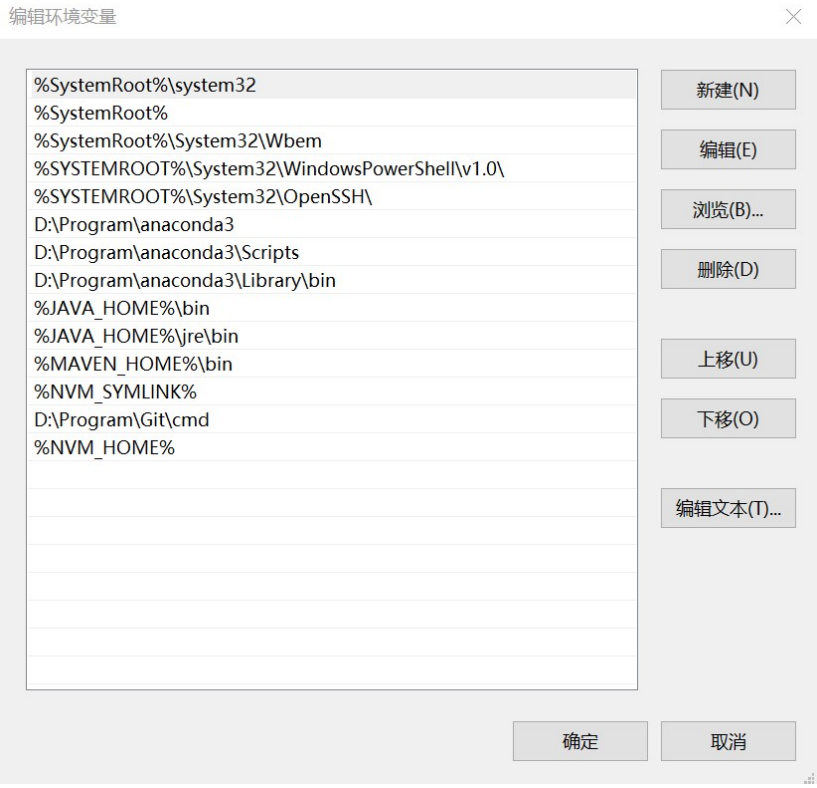
```
//person.js
export const tony = { color:"gray" }
export { tony as Tony }

//index.js
import { Tony } from "person.js"
import { Tony as man} from "person.js"

console.log(man)    //{ color:"gray" }
```

python

Anaconda

□□□□

1. □□
   - □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□Python□Anaconda3
   - □□□□□□□https://www.anaconda.com/download/
   - □□
2. □□□□ □□□□PATH□
   □ `D:\Program\anaconda3;D:\Program\anaconda3\Scripts;D:\Program\anaconda3\Library\bin;` □□□□□□□□□□□



   □□□□□□PATH□□□□□□□□□□□□□□□□□□□□□□□

3. □□
   - □□Python□□cmd□□□ `Python` □□□□□Python□□□□
   - □□Conda□□cmd□□□ `conda` □ `pip` □□□□□□□□□

- `conda --version` □□□□□□□□□□□□

□□

1. □□□□□

   - Windows □□□□□□□□□□ `.condarc` □□□□□□□□ `conda config --set show_channel_urls yes` □□□□□□□□□□

     ```
     channels:
     - defaults
     show_channel_urls: true
     default_channels:
     - https://mirrors.tuna.tsinghua.edu.cn/anaconda/
     - https://mirrors.tuna.tsinghua.edu.cn/anaconda/
     - https://mirrors.tuna.tsinghua.edu.cn/anaconda/
     custom_channels:
     conda-forge: https://mirrors.tuna.tsinghua.edu.c
     msys2: https://mirrors.tuna.tsinghua.edu.cn/anac
     bioconda: https://mirrors.tuna.tsinghua.edu.cn/a
     menpo: https://mirrors.tuna.tsinghua.edu.cn/anac
     pytorch: https://mirrors.tuna.tsinghua.edu.cn/an
     simpleitk: https://mirrors.tuna.tsinghua.edu.cn/
     ```

     - □□ `conda clean -i` □□□□□□□□□□□□□□□□□□□□□□□□□□□□

2. □□□□□□

   - □□□□□□□ `code`

     ```
     conda create -n code python=3
     ```

   - □□□□□□□□□

     ```
     conda env list
     ```

   - □□□□

     ```
     activate code
     ```

   - □□□□□□□

     ```
     conda remove -n aiconfig --all
     ```

   - □□ipython

     ```
     conda install -c anaconda ipython
     ```

- □□□□□□ `deactivate`

3. □□pip□
   - Windows□□conda□□□□□□□□□□□pip□□□□ `pip.init` `C:\Users\xxx\pip\pip.ini`

```
[global]
index-url=http://mirrors.aliyun.com/pypi/simple/
[install]
trusted-host=mirrors.aliyun.com
disable-pip-version-check = true
timeout = 6000
```

linux

□□□□

- /□□□□
- /bin: /usr/bin: □□□□□□□□□□□□□□□□□□□ls□tar□mv□cat□□
- /boot□□□linux□□□□□□□□□□□□□□Linux□□□□□□/boot/vmlinuz□□□□□□□□□/boot/grub□
- /dev□□□linux□□□mount /dev/cdrom /mnt□
- /etc□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□/etc/inittab□/etc/fstab□/etc/init.d□/etc/X11□/etc/sysconfig□/etc/xinetd.d□
- /home□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□
- /lib: /usr/lib: /usr/local/lib□□□
- /lost+fount□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□
- /mnt: /media□□□□□□□□□□□□□□□□□ /mnt/cdrom □□□□□□□□□□□□□□□□□□□□
- /opt□□□□□□□□□□□□□□□□□□□
- /proc□□□/proc/cpuinfo□/proc/interrupts□/proc/dma□/proc/ioports□/proc/net/* □□
- /root□□□□□□root□□□□□

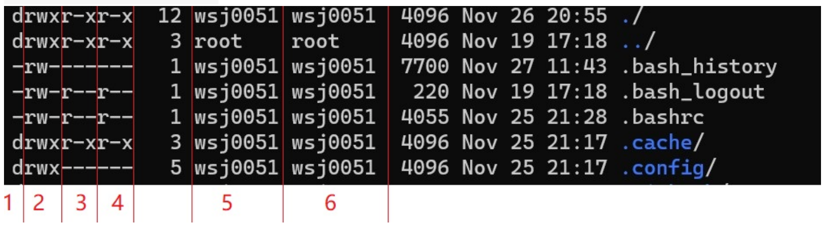
- /sbin: /usr/sbin: /usr/local/sbin□□□□□□□□□□□□□□□□□□□□□□fdisk□shutdown□mount □□□ /bin □□□□□□□□□□□□□□□□□□ root□□□□□□□□□□□□"□□"□□□□□□□□□
- /tmp□□
- /srv□□□□□□□□□□□□□□□□□□□ www □□□□□□□□□□□□□□ /srv/www □□
- /usr□□□□□□□□□□/usr/bin □□□□□□□/usr/share □□□□□□□/usr/lib □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□/usr/local: □□□□□□□□/usr/share/doc: □□□□□□□□□□□/usr/share/man: □□□□□□□□□□□
- /var□□□□□□□□□□□□□□□□□□□□□□□□□□□□□/var/log□/var/log/message□□□□□□□□□□□□□/var/spool/mail□□□□□□□□□/var/run:□□□□□□□□□□PID□□□□□□□□

□□□

- □□□ `ctrl+l`
- □□□□□□□□□ `ctrl+c`

□□□□

- □ `r` □read
- □ `w` □write
- □□ `x` execute
- `d rwx rwx rwx` □□□□



1. □□□□
2. □□□□□□
3. □□□□□□
4. □□□□□□□
5. □□□
6. □□□

□□

- □□ --help
- man □□

ls□□

- `ls □□□` □□□□
  - `ls -a` □□□□□□□□□□□□
  - `ls -l` □□□□□□□□□□□□□□□□□
  - `ls -lh` □□□□□□□□□□□□□□□□□ □□□1024□□□□{KB MB GB}
  - `ls -all` □□□□□□□□□□□□□□□□
  - `ll` □□
- □□□□
  - `*` □□□□□□□□`0-256`
    - `a*` □□□□□□ 256□□
  - `?` □□□□□□□□
    - `a□` □□□□
  - `[a-z]` □□□
    - □□a□z□□□□□□□□□□□□□□
  - `[abcde]` □□□
    - □□abcde□□□□□□□□□□□□□□

□□□□

- `cd` □□□□□□□□
- `cd ~` □□□□□□□□□□□
- `cd ..` □□□□□□□
- `cd .` □□□□□□□
- `cd -` □□□□□□□□

□□□□

- `mkdir □□□` □□□□
- `mkdir □□□ -p` □□□□
- `rmdir □□□` □□□□□□□
- `rm □□□` □□□□
- `rm □□□ -i` □□□□□
- `rm -r □□□` □□□□

□□

1. □□□ `ln □□□ □□□□`
   - □□□□□□□□□□□□□□□□□□□□□□□□□□□□□copy□□
   - □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□
2. □□□ `ln -s □□□ □□□□`
   - □□□□□□□□□□□ □□□□□□□□□□□□□□□
   - □□□□□□□□□□□□□□□□□□□□□

  - □□□□□□□□□□□□1 □□□□□□□□□□
  - □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□

vi□□

- `ctrl+z` □□□□
- `jobs` □□□□
- `fg □□` □□

□□	□□
ZZ	□□□□
:wq	□□□□
:q!	□□□□□
[n]x	□□□□□ n □□□
[n]X	□□□□□ n □□□
D	□□□□□□□□□□□□□□□□□
[n]dd	□□□□□□□□□□ n □□□□□□□□□□□□□□□□□□□□□□□□□□□
[n]yy	□□□□□□□□□□ n □
p	□□□□□□□□□□□□□□□
dG	□□□□□□□□□□□□□□□□□□□□
J	□□□□□□□□□□□□□□□□□□□□□□□□□□□
.	□□□□□□□□
u	□□□□□□□□
gg	□□□□□□
G	□□□□□□
:set ic	□□□□□□□□□
:set noic	□□□□□□□□□□
:set nu	□□□□
:set nonu	□□□□□
a	□□□□□□□□□□□
i	□□□□□□□□□□□
o	□□□□□□□□□□□
O	□□□□□□□□□□□
I	□□□□□□□□□□□
A	□□□□□□□□□□□
:r □□□	□□□□□□□□□□□□□□□□□□□□
:s/w1/w2/g	□□□□□□w2□□w1
:g/p1/s//p2/g	□□□□□□□□p2□□p1
:10,20s/p1/p2/g	□10□20□□□p1□p2□□
/□□	□□□□□□□n□□□□□□N□□□□

□□□□

```
grep  '□□□□' □□□
```

- □□
  - -n □□□□
  - -v □□
  - -i □□□□□
- □□□
  - `^a` □a□□□□□□□□□□
  - `a$` □a□□□□□□□□□□
  - `.` □□□□□□□□□□□□□
  - `*` □□□□□□□□□□0□□□

□□□□

```
find □□ □□ □□□
```

- -name □□□
- -size □□
- -perm rwx

□□□

tar□□

```
tar -cvf □□□□□.tar □□1 □□2  □□1 □□2
```

tar□□□

```
tar -xvf □□□□□.tar  -C □□
```

gzip □□□□□□□□□□□□□□.tar.gz□□□□□□□□□□□□□□□□□□□□□□□□□□□.tar□□□□□

```
gzip □□□□□.tar
```

`gzip -d` □□□□□□□□□□□□□□.tar□

```
gzip -d □□□□□.tar.gz
```

□□□□□□□

```
tar -czvf □□□.tar.gz □□1 □□2 □□1 □□2
```

□□□□□□□□

```
tar -xzvf □□□.tar.gz -C □□
```

bzip2□□

```
tar -cjvf □□□.tar.bz2 □□1 □□2 □□1 □□2
```

bzip2□□□

```
tar -xjvf □□□.tar.bz2 -C □□
```

zip□□

```
zip □□□ □□1 □□2 □□1 □□2  □□□□□□□□□□□□□.zip
```

unzip□□□

```
unzip □□□.zip -C □□
```

C□□□□

Hello World

□□hello.c□□□□□□□□□

```
#include <stdio.h>
int main(void)
{
    printf("Hello World\n");
    return 0;
}
```

```
gcc -o hello.cgi hello.c
```

System□□□□□

- □□system□□□□□□□□□□
  - □□□□□□□□□ `<stdlib.h>`
  - □□□□Linux□□□windows□□□□□□□□□□□□□□

C□□□□□□

1. □□□ `gcc -E a.c -o a.i`
   - □□□□□
   - □□□□□
   - □□□□
   - □□□□
2. □□ `gcc -S a.i -o a.s`
   - □□□□
   - □□□□□□□
3. □□ `gcc -c a.s -o a.o`
   - □□□□□□□□□□□□
4. □□ `gcc a.o -o a.exe`

- □□□□□□□□□□□□□□

□□□□

1. □□□□□□□□□
2. □c□□□□□□□□□□□□□□□□
3. □□

```
//□□□□
    __asm
    {
            mov a, 3
            mov b, 4
            mov eax, a
            add eax, b
            mov c, eax
    }
```

□□C□□□□□□□□

1. □□□□□□□□

```
#define _CRT_SECURE_NO_WARNINGS
```

2. □□□□ `#pragma warning(disable:4996`
3. □□□□□□□□□□□□□□□□□□□□C/C++□□□□□□□□□□□□□□□□ `_CRT_SECURE_NO_WARNINGS`
4. linux□□□□□□□

git

□□□□□□□□□□□□

```
git config --global user.name  "your user name"
git config --global user.email "your email"
```

□Git□□□□

```
git config --global color.ui true
```

git□□□□

```
git config --global alias.lg "log --color --graph --pretty=
```

Git□clone□□□□□□□URL□□□□□□□□□HTTPS□SSH□

1. HTTPS□□□□□ `https://github.com/□□□/□□□.git`
2. SSH□□□□□ `git@github.com:□□□/□□□.git`

git□□□□□sourcetree

ssh□□□□

```
ssh-keygen -t rsa -C "your email"
```

□□□□□□□□github□gitee□□□□□ `.ssh` □□□config□□

```
# gitee
Host gitee.com
HostName gitee.com
HostkeyAlgorithms +ssh-rsa
PubkeyAcceptedAlgorithms +ssh-rsa
PreferredAuthentications publickey
IdentityFile ~/.ssh/id_rsa
# github
Host github.com
HostName github.com
PreferredAuthentications publickey
IdentityFile ~/.ssh/id_rsa
```

□□□□□□□github□,□□□□□□□□□□□□

```
ssh -T git@github.com
```

adb

adb □□□□

```
adb connect 127.0.0.1:58526
```

□□apk

```
adb install □□/□□□.apk
```

□□adb fastboot □□

1. □□adb fastboot□□

   ```
   sudo apt install adb fastboot
   ```

2. □□USB□□□□□□□□□□□□□□□□□□□□□□□□□□

   ```
   adb devices
   ```

3. □□□fastboot□□

   ```
   adb reboot-bootloader
   ```

4. □□□□□□□□□□□□□□□□□□□□□□□□□□

   ```
   tar zxvf clover_images_V10.3.2.0.ODJCNXM_20190515.0000.
   ```

5. □□□□□□□□□

   ```
   cd clover_images_V10.3.2.0.ODJCNXM_20190515.0000.00_8.1
   ```

6. □□□□

- □□□□□□ `chmod +x flash_all.sh`
- fastboot□□□□□□□□□□□ `fastboot devices`
- □□□□□□[1] `sudo sh flash_all.sh`

□□ fastboot □□ Recovery

1. □□ Recovery - □□ TWRP□
   - □□□□□ □□□□□ □□□□□□□□ **Recovery** □□□
   - □□□□□□□□□□□□□□ Recovery□□□□□□□□□□□□□□□□□□□□□□□□□□
2. □□USB□□□□□□□□□□□
3. □□□□□□□□□□□□Windows□□ □□ □Linux □ macOS□□□□□

   ```
   adb reboot bootloader
   ```

   □□□□□□□□□□□□ fastboot □□□

   - □□□□□□□□□□□□□ + □□□□□□□□□□□□□“FASTBOOT”□□□□□□□□
4. □□□□□□ fastboot □□□□□□□□□□□□□□□□□ PC □□□□□□

   ```
   fastboot devices
   ```

5. □ Recovery □□□□□□□□□

   ```
   fastboot flash recovery twrp-x.x.x-x-x.img # □□□
   fastboot boot .\twrp-x.x.x-x-x.img  # □□□□□recovery
   ```

6. □□□□ Recovery □□□□□□□□□
   - □□□□□□□□□□□□□ + □□□□□□□□□ Recovery □□□□□□□□

□□ Recovery □□□□ROM

1. □□□□□□□□□□□ROM□□
   - □□□□□□□□□□□□□□□□ OpenGapps
2. □□□□□□□ Recovery □□□□□□□ Recovery □□□
   - □□□□□□□□□□□□□ + □□□□□□□□□ Recovery □□□□□□□□

1. □□□□□□□□□□□□□□□□□sh□□□□□□□□□□□□□□□□□□□ ↩

□□□□□□□

□□□□□

- Debian-Pi-Aarch64
- □□□□□□□□□□ □□□: xbwy

□□□□□□

```
sha1sum 2013-09-25-wheezy-raspbian.zip
unzip  2013-09-25-wheezy-raspbian.zip
```

□□□□□□□□□□□□, `df -h` □□□u□□sd□□□□□□ □□□□□□□□□□□□□□□□□□□ □□□□□□□□□□□□□□□□□□□□

```
umount  /dev/sdb1
umount  /dev/sdb2
```

xz□□□□(□□□□□□□)

```
sudo xz -cd kali-2017.3-rpi3-nexmon.img.xz> /dev/sdb
```

□□□□□□ `sudo pkill -USR1 -n -x xz`

img□□□□□□□□□□□□□□□□

```
sudo dd bs=4M if=2013-09-25-wheezy-raspbian.img of=/dev/sdb
```

□□□□□□ `sudo pkill -USR1 -n -x dd`

□□□□

1. □□□□□□□□□

```
apt-get remove packagename
```

2. □□□□□□□□

```
apt-get purge packagename
```

□□□□

□□□

□□□□ `apt-get install softname1 softname2 softname3……`

□□□□ `apt-get remove softname1 softname2 softname3……`

□□□□□□□□ `apt-get remove –purge softname1`

□□□□□□□□□□ `apt-get update`

□□□□□□□ `apt-get upgrade`

□□□□□ `apt-cache search softname1 softname2 softname3……`

□□deb□□□ `dpkg -i xxx.deb`

□□□□□ `dpkg -r xxx.deb`

□□□□□□□□□□ `dpkg -r –purge xxx.deb`

□□□□□□□□ `dpkg -info xxx.deb`

□□□□□□□□□ `dpkg -L xxx.deb`

□□□□□□□□□□□□□□□ `dpkg -l`

□□□□□□□□ `dpkg-reconfigure xxx`

□□□□□□□□□□□□□□□□□□□□

```
dpkg -l |grep ^rc|awk '{print $2}' |sudo xargs dpkg -P
```

> dpkg□□□□□□□apt□□□□□□□□□

aptitude

`aptitude update` □□□□□□□□□

`aptitude upgrade` □□□□□□□

`aptitude dist-upgrade` □□□□□□□□□□□□□

`aptitude install pkgname` □□□

`aptitude remove pkgname` □□□

`aptitude purge pkgname` □□□□□□□□□□

`aptitude search string` □□□

`aptitude show pkgname` □□□□□□□□□

`aptitude clean` □□□□□□□□□

`aptitude autoclean` □□□□□□□□□□

Termux

□□□□□□

```
termux-setup-storage
```

□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□ Termux □□□□□□□□□□"□□"□

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```
ln -s /data/data/com.termux/files/home/storage/shared/wsj0(
```

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□□□□□□□□□□□□□□□ TUNA □□□

```
sed -i 's@^\(deb.*stable main\)$@#\1\ndeb https://mirrors.t
sed -i 's@^\(deb.*games stable\)$@#\1\ndeb https://mirrors
sed -i 's@^\(deb.*science stable\)$@#\1\ndeb https://mirro
apt update && apt upgrade
```

□□□□□□

```
pkg update
pkg upgrade
pkg install vim curl wget git unzip unrar
```

□□□□□□

```
sh -c "$(curl -fsSL https://github.com/Cabbagec/termux-ohmy
```

□□□□□□□□□□□□□□□□□□

```
Enter a number, leave blank to not to change: 14
Enter a number, leave blank to not to change: 6
```

□□□□□□□□□□

```
~/termux-ohmyzsh/install.sh
```

Termux□□□□

```
mkdir $HOME/.termux;
echo "extra-keys = [ \
    ['ESC','<','>','BACKSLASH','=','^','$','()','{}','[]',
    ['TAB','&',';','/','~','%','*','HOME','UP','END','PGUP
    ['CTRL','FN','ALT','|','-','+','QUOTE','LEFT','DOWN','R
    ]
" >> $HOME/.termux/termux.properties
```

□□□□□□□

```
vim $PREFIX/etc/motd
```

□□□□□□□vim□□□□□□□□□□□□□□□□ `pkg install vim`

□□□□□□□sh□□□□

```
cd $PREFIX/etc
vim motd
```

motd□□□□□□□□□□□□□□□□

```
#!$PREFIX/bin/bash
neofetch
```

□□□□□□□□□□□□□□□□□

```
mv motd profile.d/motd.sh
```

□□□□□□

□□□□□□□□□□□□□□□□sh□□□□□□□□□.zshrc□

```
mv $PREFIX/etc/profile.d/motd.sh .
echo "$PREFIX/bin/bash ~/motd.sh" >> ~/.zshrc
```

□□neofetch□□

```
cd .config/neofetch
vim config.conf
```

□□□□□□□□□□□□□□□□□ `ascii_distro="linux"` □□□□□□□□□linux

npm□□http-server

```
npm install -g http-server
```

□□□□□ Server□

```
http-server
```

□□□□□□□□□□□□□ Server □□□ 8080 □□□□□□□□□□□□□□□□□□□□□□□□ IP □□□

□□ecj termux-tools dx□□java□□

1. □□□□

```
pkg update & pkg upgrade
```

2. □□□□□□□

```
pkg install ecj termux-tools dx
```

3. □□java□□Hello.java

```
 public class Hello{
    public static void main(String[] args){
     System.out.println("Hello World!");
    }
 }
```

4. □□java□□

```
ecj Hello.java
```

5. □□□□□□□□□□

```
dx --dex --output=Hello.dex Hello.class
```

6. □□□□□□□□□□

```
dalvikvm -cp Hello.dex Hello
```

7. □□□□□□□□□shell□□ `vim ecj.sh`

```
#!/usr/bin/sh
ecj "$1.java"
dx --dex --output="$1.dex" "$1.class"
dalvikvm -cp "$1.dex" "$1"
```

8. □□shell□□java

```
sh ecj.sh Hello
```

□□□□□□□□□□□□□

□□□□□□□□□□□□□□□□□□□□□□□□root□□□□□□

1. □□□□□□□□□□adb□□
2. □□□□□□□□□

```
pkg install tsu
adb shell
settings put secure clock_seconds 1
```

□□atilo□□linux

1. □Termux□□Linux□bash□□

```
echo "deb [trusted=yes] https://yadominjinta.github.io
pkg in atilo-cn
```

2. □□debian

```
atilo pull debian
```

3. □□debian

```
atilo run debian
```

□□apache java□□

1. □usr/local□□□java□□□□□□□□□□tar□□□□□java□□□□□□□□□□□□ □ `/data/data/com.termux/files/home/.atilo/debian/usr/local/java`
2. □□jdk□tomcat

```
cd /usr/local/java
tar xzf jdk-8u241-linux-arm64-vfp-hflt.tar.gz
tar xzf apache-tomcat-9.0.31.tar.gz
```

3. □□□□□□ `/etc/profile` □□□□

```
JAVA_HOME=/usr/local/java/jdk1.8.0_241
PATH=$JAVA_HOME/bin:$PATH
CLASSPATH=$JAVA_HOME/jre/lib/ext:$JAVA_HOME/lib/tools.
export PATH JAVA_HOME CLASSPATH
```

4. □□□□□□□□□□□□□□□□□□□□□□□□ `java -version` □□□□□□□□□□□□□□□

```
source /etc/profile
```

□□□□tmoe-linux

```
. <(curl -L gitee.com/mo2/linux/raw/2/2)
```

□□□□

1. □□-Termux
2. □□
3. tmoe

□□□

Jenkins

- □□□□□□□
  - hpi□□□□
  - Theme□□
- □□□□□
  - □□jar□ `jenkins/WEB-INF/lib/jenkins-core-1.651.3.jar` □□□□ `lib/layout/layout.jelly`

maven□□□□jar

```
mvn install:install-file -Dfile=junit-4.8.1.jar -DgroupId=j
```