Session 4 Homework
Code For Everyone JavaScript

Study

1. `for` and Object

    Run the following code, observe and then answer the questions

    ```javascript
    const product = {
        name: 'Xiaomi rice cooker',
        price: 1700,
        brand: 'Xiaomi',
        color: 'white'
    };

    for (let x in product) {
        console.log(x);
    }
    ```

    Questions:

    1.1.   What values x receive from product, property or value?
    1.2.   Use the for loop to print/log out the following output

    ```
    name: Xiaomi rice cooker
    price: 1700
    brand: Xiaomi
    color: White
    ```

2. Learn about destructuring object in the following tutorials:

    Object destructuring in ES6
    ES6 destructuring: the complete guide

Then use one line of code to destructure to obtain `subject, dueDate` and `assignTo` from this object:

```
const task = {
    subject: 'Implement login feature',
    createdBy: 'Hoang Ngoc Duc',
    assignTo: 'Nguyen Phuong Nam',
    dueDate: '2019-10-08T18:00:24+0000',
    expectedHours: 0.5,
};
```

3. Here is the actual data from a job search site, copy all of the data, assign it to a variable or a constant named `jobSearch` in your code. Log or print it out to see its structure then answer the following questions:

    3.1.   What is the data type of the **outermost layer** (Number, String, Object, Array or else)?

    3.2.   The `hits` property is where the job results are stored, is it a `Number, String, Array, Object` or something else?

    3.3.   In each hit of `hits`, how to find the job's title, locations, salary, benefits, skills and requirements
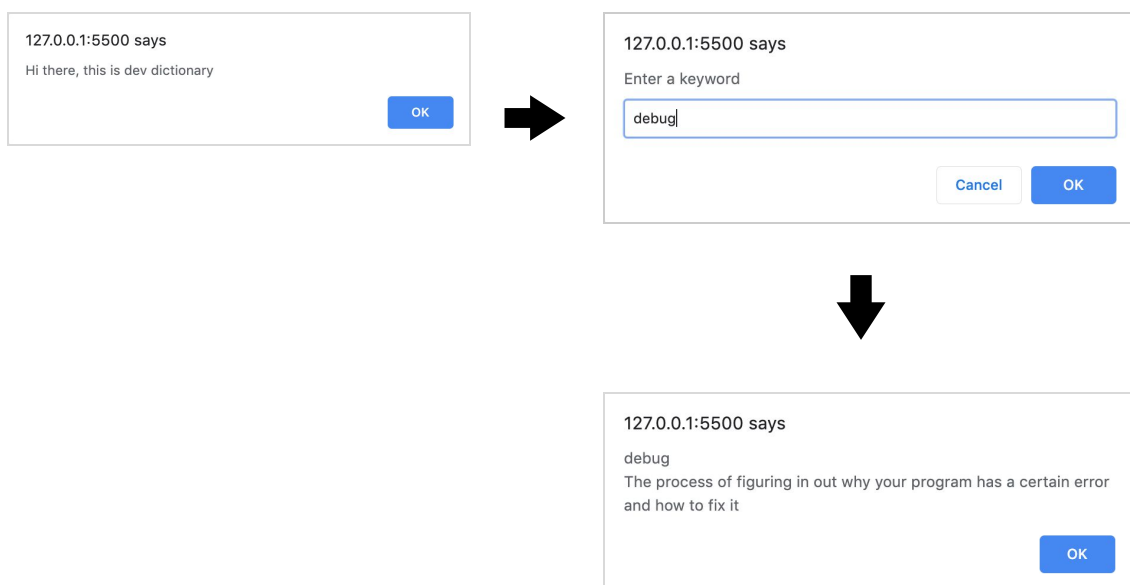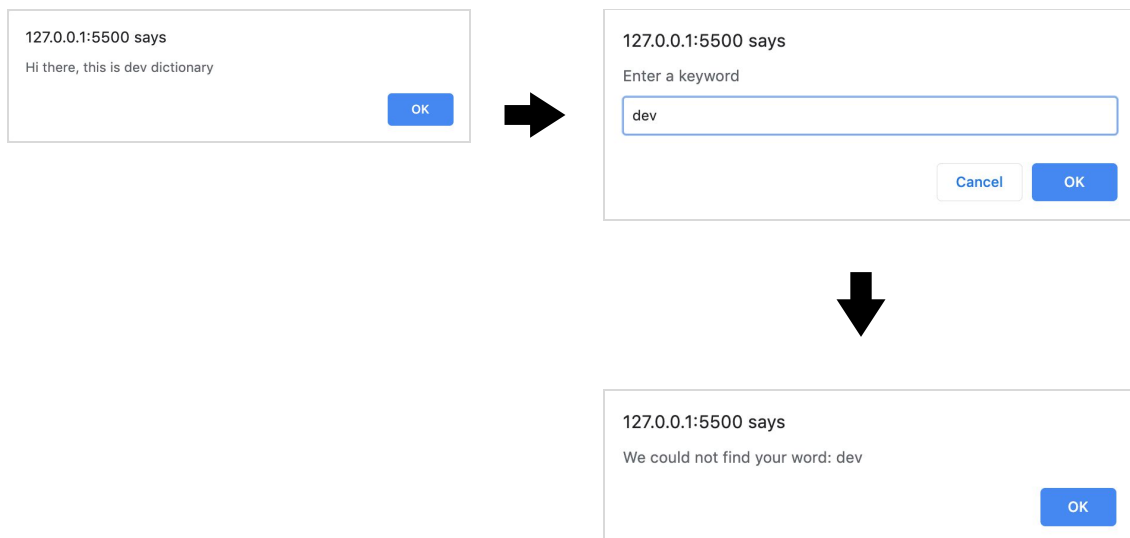
Review

4. Initialize an object to represent a dictionary, with properties as keyword and values as explanation, the initial values are from this table

Keyword	Explanation
debug	The process of figuring out why your program has a certain error and how to fix it
done	When your task is complete, the only thing you have to do is to wait for users to use it (no additional codes or actions needed)
defect	The formal word for 'error'
pm	The short version of Project Manager, the person in charge of the final result of a project
ui/ux	UI means User Interface, UX mean User Experience, are the process to define how your products looks and feels

5. Write a script to simulate the lookup of the dictionary initialized in the previous example

127.0.0.1:5500 says

Hi there, this is dev dictionary

OK

127.0.0.1:5500 says

Enter a keyword

dev

Cancel   OK

127.0.0.1:5500 says

We could not find your word: dev

OK

6.   Update your script so that it can let users contribute the explanation to the dictionary

127.0.0.1:5500 says

Hi there, this is dev dictionary

OK

127.0.0.1:5500 says

Enter a keyword

dev

Cancel   OK

127.0.0.1:5500 says

Done

OK

127.0.0.1:5500 says

We could not find your word: dev, leave your explanation

Developers, creature active at night, fed by noddles and redbull

Cancel   OK

127.0.0.1:5500 says

Enter a keyword

dev

Cancel   OK

127.0.0.1:5500 says

dev
Developers, creature active at night, fed by noddles and redbull

OK

Note: If you want, you and handle the exceptions from user input, especially when users leave their explanation blank when the word is not found.

7. Initialize a variable named products, containing an array of products, each product has a `name`, `price`, `brand`, `category`, and `color`

#	Name	Brand	Price	Color	Category
1	Xiaomi portable charger 20000mah	Xiaomi	428	White	Charger
2	VSmart Active 1	VSmart	5487	Black	Phone
3	IPhone X	Apple	21490	Gray	Phone
4	Samsung Galaxy A9	Samsung	8490	Blue	Phone

8. Print/log `name` and `price` of all the products out

```
    Elements   Console   Sources
    top              ▼   ◉   Filter
    ------------------------------------
    Name: Xiaomi portable charger 20000mah
    Price: 428
    ------------------------------------
    Name: VSmart Active 1
    Price: 5487
    ------------------------------------
    Name: IPphone X
    Price: 21490
    ------------------------------------
    Name: Samsung Galaxy A9
    Price: 8490
```
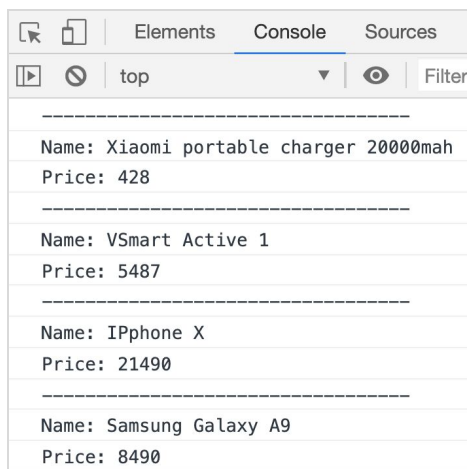
9. Write a script printing/logging out the products based on category input by users
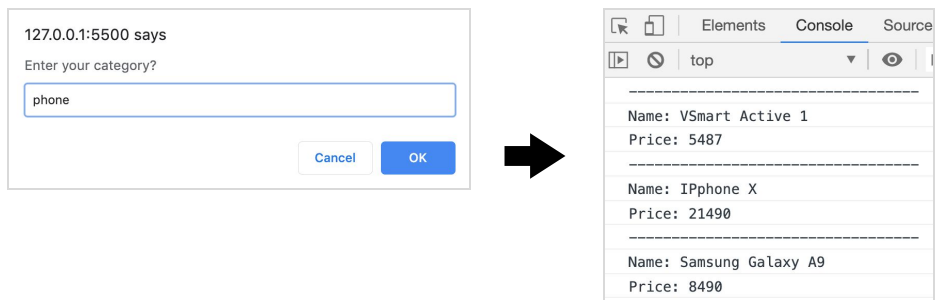
10. Write a script printing/logging out the products with their number, then print/logging out the details of a product with its position entered by users
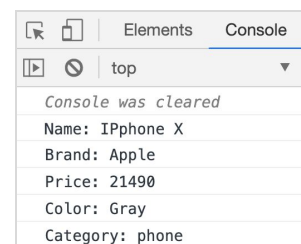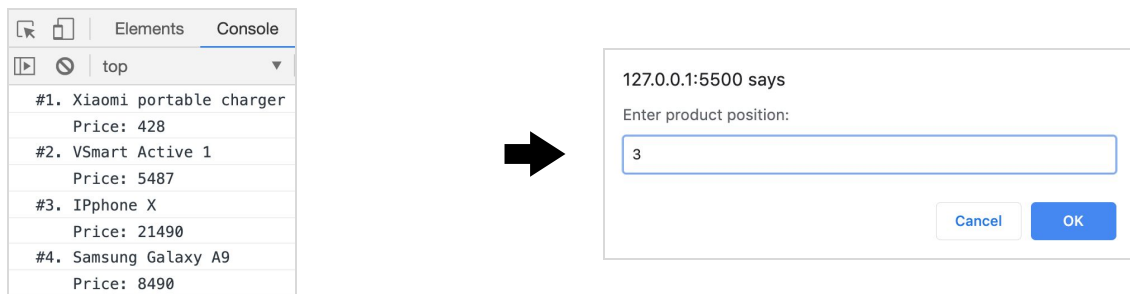
11. Add providers to each product

#	Name	Brand	Price	Color	Category	Providers
1	Xiaomi portable charger 20000mah	Xiaomi	428	White	Charger	Phukienzero Dientuccc
2	VSmart Active 1	VSmart	5487	Black	Phone	Tgdd Ddghn VhStore
3	IPhone X	Apple	21490	Gray	Phone	Tgdd
4	Samsung Galaxy A9	Samsung	8490	Blue	Phone	Tgdd

And printing/logging out all of the products

12. Search the `products` based on provider entered by users, google "`JS array indexOf`" to review the function if necessary, if you need more directions, find the hints at the end of this homework

127.0.0.1:5500 says

Enter provider

tgdd

Cancel   OK

Elements   Console   Sources

top   ▼   👁   Filter

Console was cleared

Name: VSmart Active 1
Brand: VSmart
Price: 5487
Color: black
Category: phone
Providers: tgdd,ddghn,vhstore
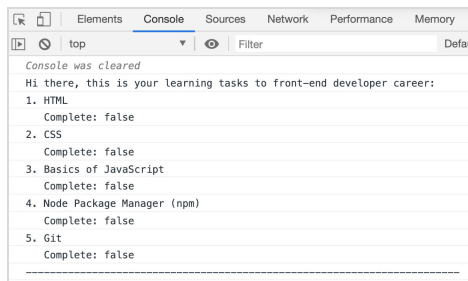
Name: IPphone X
Brand: Apple
Price: 21490
Color: Gray
Category: phone
Providers: tgdd

Name: Samsung Galaxy A9
Brand: Samsung
Price: 8490
Color: blue
Category: phone
Providers: tgdd
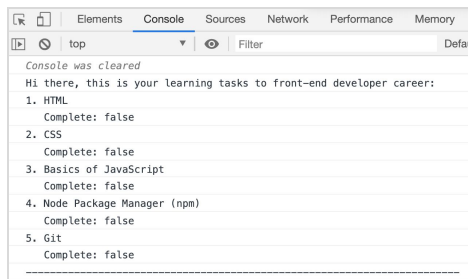
Serious exercices

13. Write a script to store and process the learning tasks to become a front-end developer

    13.1. Print it out
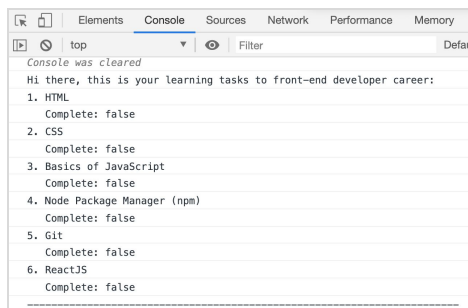
    13.2. Let users add new task

13.3. Let users update task

13.4. Let users complete task

```
  Elements  Console  Sources  Network  Performance  Memory
  top                    ▼   ⊘   ◉   Filter                    Def
  Console was cleared
  Hi there, this is your learning tasks to front-end developer career:
  1. HTML
       Complete: false
  2. CSS
       Complete: false
  3. Basics of JavaScript
       Complete: false
  4. Package Manger (npm or yarn)
       Complete: false
  5. Git
       Complete: true
  6. ReactJS
       Complete: false
  ------------------------------------------------
```

```
127.0.0.1:5500 says

Enter your command (New, Delete, Update, Complete)

complete

                                     Cancel        OK
```

```
  Elements  Console  Sources  Network  Performance  Memory
  top                    ▼   ⊘   ◉   Filter                    Def
  Console was cleared
  Hi there, this is your learning tasks to front-end developer career:
  1. HTML
       Complete: false
  2. CSS
       Complete: false
  3. Basics of JavaScript
       Complete: false
  4. Package Manger (npm or yarn)
       Complete: false
  5. Git
       Complete: true
  6. ReactJS
       Complete: false
  ------------------------------------------------
```
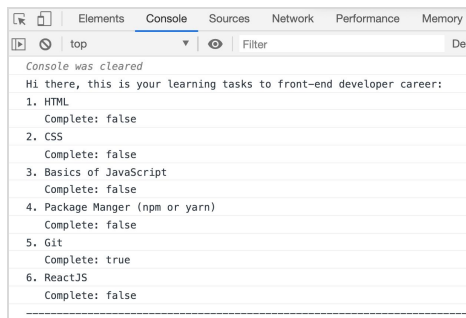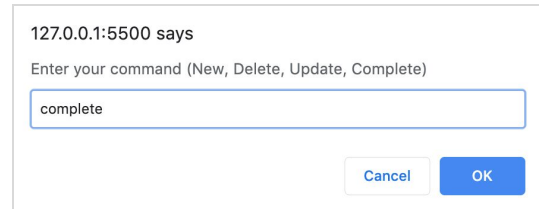
```
127.0.0.1:5500 says

Enter position:

5

                                     Cancel        OK
```
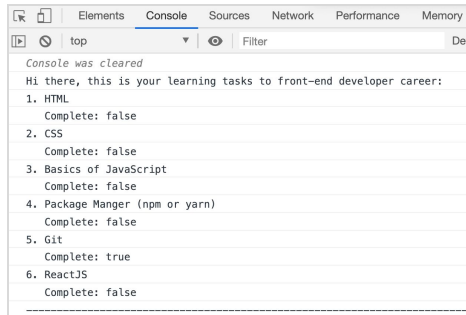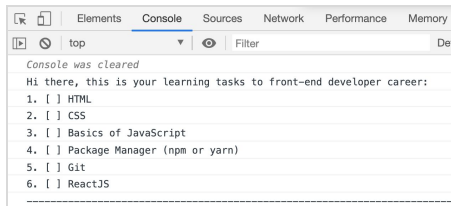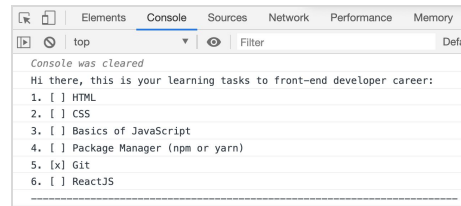
13.5.   Let users delete task (No illustrative image, you already know the drill)

13.6.   (Optional) Make printing / logging better

```
  Elements  Console  Sources  Network  Performance  Memory
  top                    ▼   ⊘   ◉   Filter                    Def
  Console was cleared
  Hi there, this is your learning tasks to front-end developer career:
  1. [ ] HTML
  2. [ ] CSS
  3. [ ] Basics of JavaScript
  4. [ ] Package Manager (npm or yarn)
  5. [ ] Git
  6. [ ] ReactJS
  ------------------------------------------------
```
and
```
  Elements  Console  Sources  Network  Performance  Memory
  top                    ▼   ⊘   ◉   Filter                    Defa
  Console was cleared
  Hi there, this is your learning tasks to front-end developer career:
  1. [ ] HTML
  2. [ ] CSS
  3. [ ] Basics of JavaScript
  4. [ ] Package Manager (npm or yarn)
  5. [x] Git
  6. [ ] ReactJS
  ------------------------------------------------
```
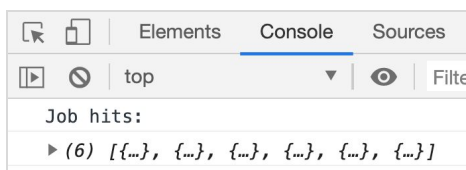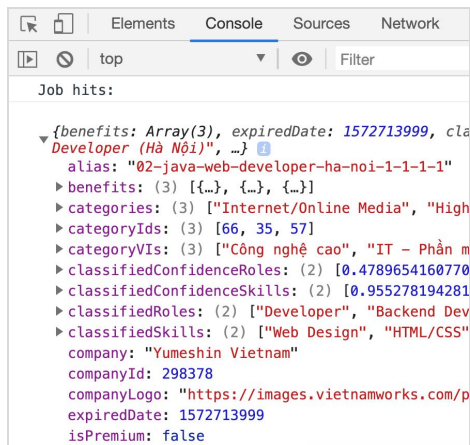
14.   Get jobs data from this link, copy the whole content and assign it a variable or a constant named `jobData`, if you need visual hint, find it at the end of this homework
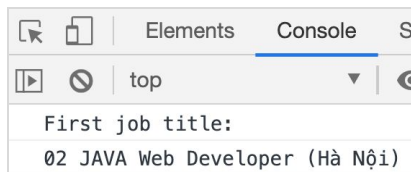
14.1.   Get all the job hits

```
  Elements  Console  Sources
  top                    ▼   ◉   Filte
  Job hits:
  ▶ (6) [{…}, {…}, {…}, {…}, {…}, {…}]
```

14.2. Get the first job hit

14.3. Get `jobTitle` of the first job

14.4. Get the `benefits` of the first job hit

14.5. Log out first job hit benefit values

```
First job hit benefit:
- 14 tháng lương, đánh giá tăng lương 2 lần/ năm
- Hưởng đầy đủ các loại bảo hiểm theo quy định của
- Có cơ hội học hỏi nâng cao kiến thức chuyên môn v
```

14.6. Log out `jobTitle` and `benefitValue` of all job `hits`

```
02 JAVA Web Developer (Hà Nội)
Benefits:
- 14 tháng lương, đánh giá tăng lương 2 lần/ năm
- Hưởng đầy đủ các loại bảo hiểm theo quy định củ
- Có cơ hội học hỏi nâng cao kiến thức chuyên môn
-----------------------------------------------
Android Developer (Fresher/junior & Senior)
Benefits:
- Tham gia các khoá đào tạo Quản lý, Kỹ năng mềm
- Company Trip hàng năm (Đã đi: Côn Đảo, Phú Quốc
- Lương thưởng theo năng lực
-----------------------------------------------
Nhân Viên Lập Trình Web - Web Developer
Benefits:
```

14.7. Log out `jobTitle`, `locations`, `skills`, `jobSalary` of all job `hits`

```
Title: Nhân Viên Lập Trình Web - Web Developer
Salary: 1000$
Locations:
- Ha Noi
Benefits:
- Cơ hội On-site tại Mỹ, Nhật Bản
- Tham gia các kỳ nghỉ, các hoạt động tập thể của công
ty như: bóng đá, cầu lông...
Skills:
- Docker Swarm
- PHP
- MVC
- Nodejs
-----------------------------------------------
Title: Senior Front-End Developer
Salary: 300$
Locations:
- Ho Chi Minh
Benefits:
- Continuous learning and career growth
- Exciting challenges and rewarding recognitions
- Creative workplace with international teams of
talents
Skills:
- Software Engineering
- HTML5
```
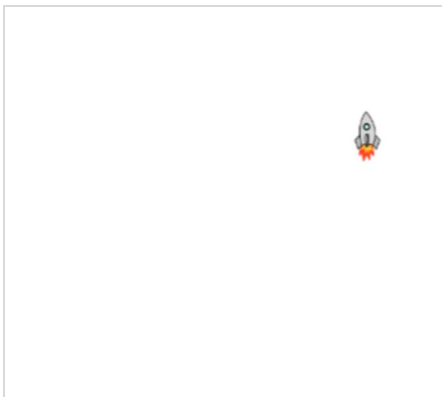
![mindX Technology & Startup School logo]

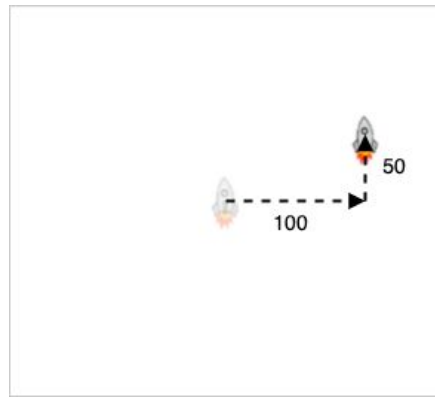🐢 **Turtle exercices**

15. Given the object

```
const pos = {
    x: 200,
    y: 50,
}
```

Move the turtle to the provided position, use `penup()` and `pendown()` to NOT leave any traces
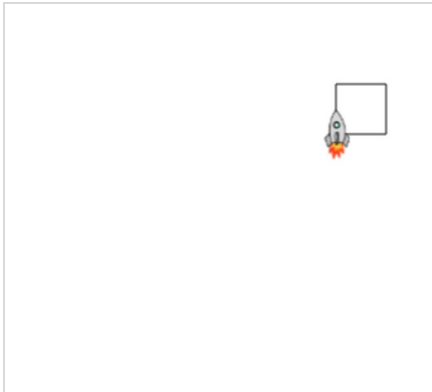
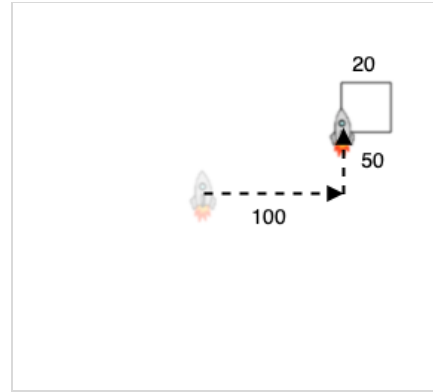| Actual result	Hint

16. Given the object

```
const square = {
    x: 100,
    y: 50,
    width: 20,
};
```

Use JS Turtle, to draw a square at position (`x`, `y`) with size `width`
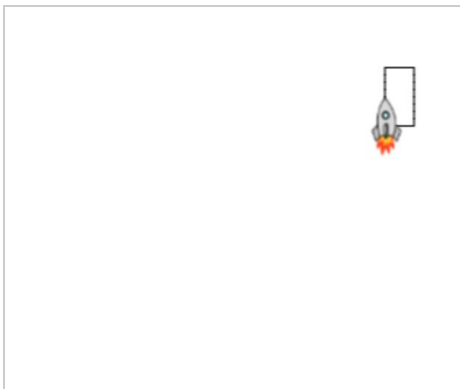
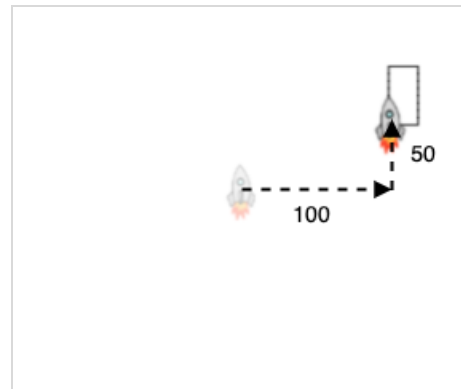| Actual result	Hint

17. Given the object

```
const rect = {
    x: 100,
    y: 50,
    width: 20,
    height: 40,
};
```

Use JS Turtle, to draw a rectangle at position (x, y) with size width and height

Actual result	Hint

18. Given this data structure, in which:
```
{
        shape: 'rect',
        x: 8,
        y: 70,
```

```
        width: 12,
        height: 40,
},
```
`rect` means draw a rectangle with the respective position (`x`, `y`) and size (`width`, `height`)

```
{
        shape: 'square',
        x: 20,
        y: 40,
        width: 50,
},
```

`square` means draw a square with the respective position (`x`, `y`) and size (`width`)
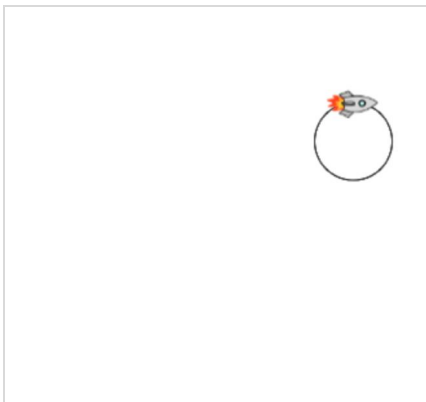
Go through and execute all command.

Note: To make turtle go to the initial position with initial angle, use `home()` nd.
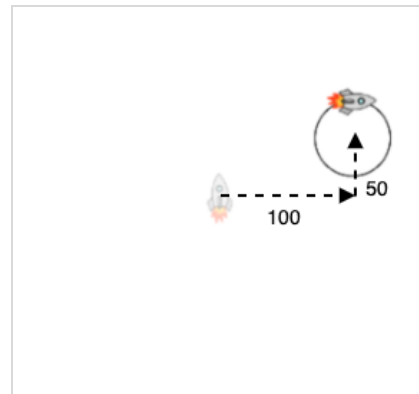
19.   (Optional) Add circle to the command

```
const circle = {
    shape: 'circle',
    x: 100,
    y: 50,
    radius: 30,
};
```

Actual result	Hint

20.   (Optional) Execute all command from this

Nice-to-do

21. (Optional) There are at least two ways to delete a property-value pair from an object, the first one is the one you learned in class, to use `delete` keyword (which you already learned).. The second one is to create a new object without the property-value pair and just use the new object from then. For example:

```
const oldData = {
    firedRice: {
        Price: 30,
        vnName: 'Com rang dua bo'
    },
    noddle: {
        price: 20,
        vnName: 'My tom chanh'
    },
    pho: {
        price: 35,
        vnName: 'Pho bo tai chin'
    },
};
```

If noddle removal is needed, a new object named `newData` is created containing data from `oldData` object, without `noddle` property. This gives the benefit of preserving the old data so it can be traced back when debugging in the future.

```
console.log(newData);
// Console
```
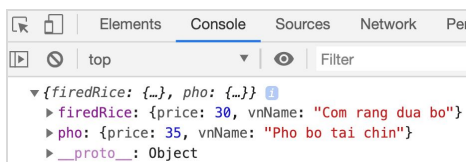

This can be done elegantly using JS 6 `rest` operator, learn it and write an example to demonstrate your understanding. If you need hints, find them at the end of this homework

Tools

22. Sometimes, you are given a very large object, which is hard to read, this for example. It can be made much more readable if you using prettify / format tool, like this Chrome Extension. Install it, reload the example and see the results. Learn how to switch between raw mode and parsed mode at the top right corner of the extension. Submit your screenshots to demonstrate your usage

Raw	Parsed

23. Large objects are hard to read thus hard to analyze. To overcome this, you can log/print the object to the console, or you can use some online tools to analyze it better. JSON Editor Online is one of these. Learn how to use it (Just copy your data to the left panel of the Editor, press the ▶ button and see the result at the right panel). Submit your screenshots to demonstrate your understanding

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Hints

Review

11. After getting category from users, loop through all of the products, with each product, get respective providers and check whether the user-entered category is in the providers array (the quick way is to use `Array indexOf` function then check whether the result equals -1 or not), if so, print/log out the results

Nice-to-do

20.
  10.1.   Google "`ES6 rest operator omit property`"
  10.2.   Tutorial [link](#)