1. Determine the output and/or identify the error in each of the following code segments without using Visual Studio:

a)

```
let bankacct = { (type: "Savings"),(amtBalance: 500),
                 (bank: "OCBC"),(status: "active") };

console.log(type + " account & balance is $" + amtBalance)
```

Output/ Error:

b)

```
let bankacct = { type: "Savings", amtBalance: 500,
                 bank: "OCBC", status: "active" };

console.log(bankacct.type + " account & balance is $"
+ bankacct.amtBalance);
```

Output/ Error:

c)

```
let bankacct = { type: "Savings", amtBalance: 500,
                 bank: "OCBC", status: "active" };
const interest = 0.10;

bankacct.amtBalance += interest * bankacct.amtBalance;

console.log("New balance is $" + bankacct.amtBalance);
```

```
Output/ Error:



```

2. You may open up your Visual Studio Code (VSC) and work from there for the following questions.

a)	Use the information below, fill in the blank to define and create as single object usi object literal. Object variable :box Property name : color Property value : blue let box = { color : };
b)	Declare and create another box object **box**1 and set the value of color as red.
c)	Write one console.log statement to print the color of the two boxes. Hardcoding is n acceptable ie `console.log("blue and red");` Sample output : blue and red
d)	Declare and create an object variable *sch* using the following details: Property name Property value name SOC type poly telephone 67721900 noITcourses 3 postCode 139651

e)	Using the object created in Part (d), write a console.log statement to produce the following output:
	
	SOC offers **3** full time **poly** diploma courses. Contact number is **67721900** and the code is **139651**.
	
	The values in bold below are extracted from the object ie hardcoding is **not** accepte
	
	E.g of hardcoding
	`console.log("SOC offers 3 full time poly diploma courses. Con`
	`number is 67721900 and the postal code is 139651.")`
	
	Output required:

3. Given the following objects in a JavaScript codes:

```
let club1 = { name: "Sports", members: 1600, fees: 50 };
let club2 = { name: "Community Service", members: 1200,fee
let club3 = { name: "Foodies", members: 800, fees: 100 };
```

Write JavaScript to produce the following output. Do not hardcode your codes.

a)	**Output:** Fees to join Sports : $50
b)	**Output:** Total fees to join all the clubs are $150
c)	Assume that you do not know the actual number of member each club. Use a simple ***if*** statement to compare the num members in Sports club and Community Service club. **Output:** Sports is more popular than Community Service c
d)	Delete the property fees from all 3 clubs. How do you check that the deletion is done?

4. a) Create 2 objects , ***mod*** and ***class1*** using the following properties. You may use any methods to create the objects.

Object name : *mod*	
Property name	Property value
code	ST0523
abbr	FOP
year	1
tot_class	26
tot_students	539

Object name : *class1*	
Property name	Property value
classID	Z01
female	12
male	8

b) Write codes to output the following :

   i) Total number of classes taking FOP.

   ii) Percentage of female students in class1 taking FOP.

   iii)Only the top 5% of the total students are eligible for distinctions. Write a function *computeDist* within object *module* to calculate the number of students eligible for distinctions.

5. Given the following JavaScript codes:

```javascript
let sch = {
    name: "SOC",
    type: "poly",
    tel: "67721900",
    noITcourses: 3,
    postCode: '139651',
    printTel: function () {
        return this.name + ":" + this.tel;

    }
};
console.log("Telephone of " + sch.printTel());
```

a)	What is the output?
b)	Write another method to print the postal code for SOC.

6. Use the objects created in Question 3 for this question. Each club charges it's members extra charge annually for expenses eg material cost, snacks etc. Calculation of the amount is based on a percentage of the fees.

Club	Percentage of Fees	Extra Charge
club1	30%	0.3 x 50 = $15
club2	Flat amount for 0 fees	$10
club3	20%	0.2 x 100 = $20

a) Write a method in each object to calculate the extra charge.

b) Write a function *displayclub(club)* that :
   - accepts one parameter ie object club1, club2 or club3
   - display the details of the club
   - does not return any value

Test the function by invoking it with different clubs in the main program.

<table>
<tr><td>

Sample output when club1 is passed into the function :

Sports has 1600 members.
Annual fees is $50
Extra charge is $15

</td></tr>
<tr><td>

Sample output when club2 is passed into the function :
Community Service has 1200 members
Annual fees is $10
Extra charge is $10

</td></tr>
<tr><td>

Sample output when club2 i3 passed into the function :

Foodies has 800 members
Annual fees is $100
Extra charge is $20

</td></tr>
</table>

c) [Optional exercise] Create a menu for user to select the club to display the details. You can include data validation to ensure user enters only the correct club. And allow users to continue display until he/she wants to quit the program.

7. a) Create an object to store values of a rectangle and object methods to compute the area and perimeter of the rectangle.

      i)   Two properties, *length* and *width*.

      ii)   A method *getArea()* that returns the area of the rectangle.

      iii)   Another method *getPerimeter()* that returns the perimeter of the rectangle.

  b) In the main program,

      i)   Create an object *r1*.

      ii)   Set the *length* of *r1* to be 10.

      iii)   Set the *width* of *r1* to be 5.

      iv)   Display the *area* and *perimeter* of *r1*.

          Program output:

```
Area of rectangle r1 is 50
Perimeter of rectangle r1 is 30
```

8. a) Create an object to store radius of a circle and 3 object methods as described below:

    i)   One property, *radius*.

    ii) A method *getArea()* that returns the area of the circle

    iii) Another method *enlargeCircle()* that enlarges the radius of *circle* by 3 times
    iv) Another method *shrinkCircle()* that shrinks the radius by half

  b)   In the main program,

    i) Create an object *circle* with *radius* of 2.

    ii) Display the area of *circle* as shown in the program output.

    iii) Enlarge the radius of *circle* by 3 times and display the area of *circle* as shown in the program output.

    iv) Halve the radius of *circle* and display the area of *circle* as shown in the program output.

Program output: You may format to print up to 2 decimal places.

```
Area of circle1 with radius 2.0 is 12.566370614359172

Circle is enlarged 3 times.
Area of circle1 with radius 6.0 is 113.09733552923255

Circle is shrunk by halve.
Area of circle1 with radius 3.0 is 28.274333882308138
```

- END -