

DEVOIR DE SCILAB

Exercice 1 :

1- C

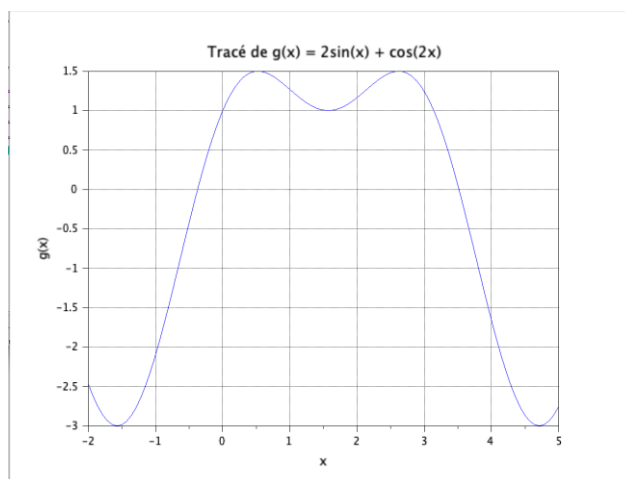
Exercice 2 :

1. Trace de la fonction $g(x)$

- Code

```
1 function y = g(x)
2     y = 2*sin(x) + cos(2*x);
3 endfunction
5 |
6 x = linspace(-2, 5, 100);
7 y = g(x);
8 plot(x, y, 'b')
9 xlabel("x")
10 ylabel("g(x)")
11 title("Tracé de g(x) = 2sin(x) + cos(2x)")
12 xgrid()
13
```

- Courbe

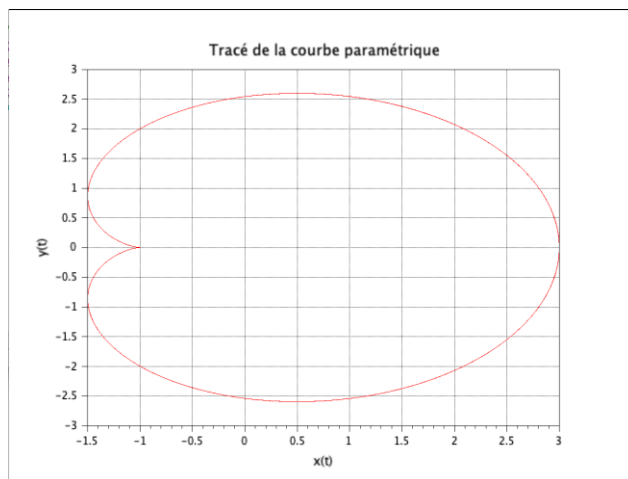


2. Trace de la courbe

- Code

```
1 t = linspace(0, 20, 500);
2
3 x = 2*cos(t) + cos(2*t);
4 y = 2*sin(t) + sin(2*t);
5
6 plot(x, y, 'r')
7 xlabel("x(t)")
8 ylabel("y(t)")
9 title("Tracé de la courbe paramétrique")
10 xgrid()
11
```

- Courbe



Exercice 3 :

1- Première équation

- Résolution

```
--> A = [1  -1  2; 3  -5  3; 1  1  -3];
--> b = [3; 1; -2];
--> x = A\b;
--> disp(x)

1.3125000
1.5625
1.6250000
```

2- Deuxième équation

- Résolution

```
--> A = [1  2  0; -1  4  7; 6  -3  1];
--> b = [8; 12; 2];
--> x = A\b;
--> disp(x)

1.8378378
3.0810811
0.2162162
```

Exercice 4 :

Calculons S

```
1 n = input("Entrez un entier naturel n : ");
2 if modulo(n, 2) == 0 then
3     S = sum((1:n).^2);
4 else
5     S = sum((1:n).^3);
6 end
7
8 disp("La somme S est :");
9 disp(S);
10
```

Exemples

```
--> exec('/Users/biziyee/Desktop/g.sce', -1)
Entrez un entier naturel n : 5
```

```
"La somme S est :"
```

```
225.
```

```
--> exec('/Users/biziyee/Desktop/g.sce', -1)
Entrez un entier naturel n : 2
```

```
"La somme S est :"
```

```
5.
```