

## Exercise 1:

### Part 1:

```
1 float y_i
2 float v_i
3 float a_y
4 float t
5 float y_f
6
7 y_i = 0
8 v_i = 23.2
9 a_y = 9.8
10 t = 5
11
12 y_f = y_i + v_i * t - (0.5 * a_y * t * t)
13
14 Put y_f to output
```

Variables

0.0	y_i	float
23.2	v_i	float
9.8	a_y	float
5.0	t	float
-6.5	y_f	float

Input

Output

-6.5\_

Code Flowchart

EXIT EXECUTION START AGAIN Execution speed Instant ▾

### Part 2:

```
1 float y_i
2 float v_i
3 float a_y
4 float t
5 float y_f
6
7 y_i = 0
8 v_i = 23.2
9 a_y = 9.8
10 t = 5
11
12 y_f = y_i + v_i * t - (0.5 * a_y * t * t)
13
14 Put y_f to output
15
16 t = t + 2
17
18 y_f = y_i + v_i * t - (0.5 * a_y * t * t)
19
20 Put y_f to output
```

Variables

0.0	y_i	float
23.2	v_i	float
9.8	a_y	float
7.0	t	float
-77.70000000000002	y_f	float

Input

Output

-6.5-77.70000000000002\_

Code Flowchart

EXIT EXECUTION START AGAIN Execution speed Instant ▾

Part 3: Specifically image proof of Part 3b:

```
3 float a_y
4 float t
5 float y_f
6
7 y_i = 0
8 v_i = 23.2
9 a_y = 9.8
10 t = 5
11
12 y_f = y_i + v_i * t - (0.5 * a_y * t * t)
13
14 Put y_f to output
15
16 t = t + 2
17 tt = t + 2
18
19 y_f = y_i + v_i * t - (0.5 * a_y * t * t)
20
```

Variables  
*Not shown when editing*

Input

Output

Code Flowchart

Line 17: Unknown word 'tt'  
Maybe you meant 't', 'to', or something different?

ENTER EXECUTION STEP RUN

Execution speed  
Instant

Exercise 2: (Control-Structures in Coral! AKA Conditionals)

```
graph TD
    Start([Start]) --> GetX[/x = Get next input/]
    GetX --> GetY[/y = Get next input/]
    GetY --> Decision{x > y}
    Decision -- TRUE --> MaxX[max = x]
    Decision -- FALSE --> MaxY[max = y]
    MaxX --> PutMax[/Put max to output/]
    MaxY --> PutMax
    PutMax --> End([End])
```

Variables

55	x	integer
79	y	integer
0	max	integer

Input

55 79

Output

Code Flowchart

EXIT EXECUTION STEP PAUSE

Execution speed  
Medium

### Exercise 3: (Static or Kinetic friction)

```
1
2 float P
3 float N
4 float u_s
5 float u_k
6 float F_max
7 float F
8
9 u_s = 0.3
10 u_k = 0.2
11 N = 500
12
13 P = Get next input
14
15 F_max = u_s * N
16
17 if P <= F_max
18     F = P
19 else
20     F = u_k * N
21
22 Put F to output
```

Variables

400.0	P	float
500.0	N	float
0.3	u_s	float
0.2	u_k	float
150.0	F_max	float
100.0	F	float

Input

400

Output

100.0

Code

Flowchart

EXIT EXECUTION

START AGAIN

Execution speed  
Instant ▾