

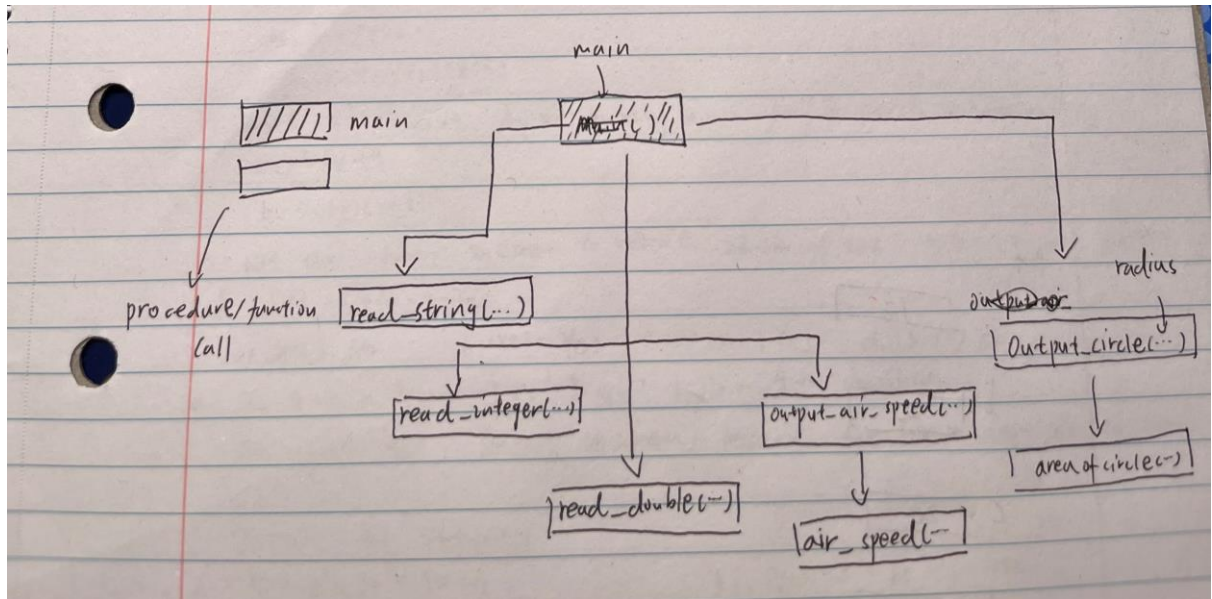
SIT102 – Introduction to Programming

Answers for 3.2P Visualisation for Program and Data

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Part A: Show a program structure starting from *main()* down to all custom procedures and functions for your **3.1P Hello User 2** program by the **required legends and illustration way**.



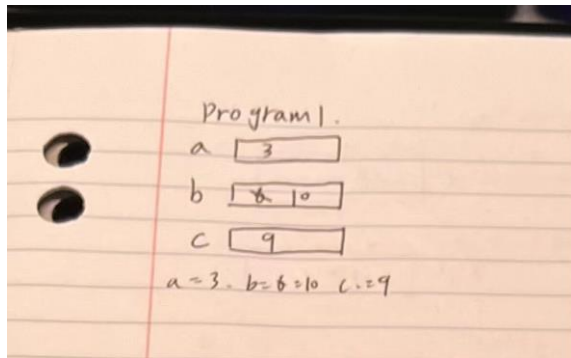
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C++ program.cpp > main()
1  #include "splashkit.h"
2  #include <string>
3
4  using namespace std;
5
6  #define STROUHAL 0.33;
7  #define PI 3.14;
8  //Calculate resultant STROUHAL air speed by reading in freq and amp
9  > double calculate_air_speed(int freq, int amp) ...
15
16  // Output Calculate and display the Air speed
17  > void output_air_speed( string bird_name, int freq, int amp, int age) ...
23  // Return a string of the input line from the terminal
24  > string read_string(string prompt) ...
31  // user input value
32  > int read_integer(string prompt) ...
38  > double read_double(string prompt) ...
44  // Calculate circle area using the users inputs
45  > double circle_area(double radius) ...
51  > void output_circle_area( double radius) ...
57  int main()
58  {
59
60      string name,bird_name;
61      int freq,amp,age;
62      double radius;
63
64      name = read_string("What is your name: ");
65      age = read_integer("What is your age?: ");
66      bird_name = read_string("What is the bird name?: ");
67      freq =read_integer("Frequency of bird: ");
68      amp = read_integer("Amplitude of bird: ");
69      radius = read_double("What is the radius: ");
70
71      output_air_speed(bird_name,freq,amp,age);
72      output_circle_area(radius);
73
74      write_line("* End of Program.*");
75      return 0;
76  }

```

Part B – Program 1:

Your hand execution answers:



Also indicate what is the Terminal output by the write() and write_line() procedure calls after the entire main() is executed.

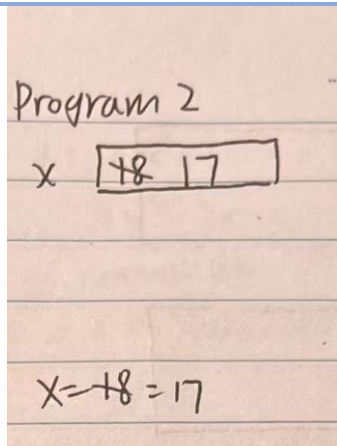
Hints: write() and write_line() produce different output layout. Show this in your answer.

The terminal output

C is 9

Part B – Program 2:

Your hand execution answers:



Also indicate what is the Terminal output by the write() and write_line() procedure calls after the entire main() is executed.

Hints: write() and write_line() produce different output layout. Show this in your answer.

Terminal output

17 18

Part B – Program 3:

Your hand execution answers:

program 3
salmon 20
dumplings 70
meals 0
Fish: Salmon 20, Dumplings: 70
Meals: 0

Also indicate what is the Terminal output by the write() and write_line() procedure calls after the entire main() is executed.

Hints: write() and write_line() produce different output layout. Show this in your answer.

Terminal output:

Fish: 20 Dumplings: 70 Meals: 0

Part B – Program 4:

Your hand execution answers:

program 4
a 2, ~~4~~ 4
b 8 2
c 20
d ~~4~~ 4
e 30 29

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