SIT102 – Introduction to Programming

Answers for 2.2P Professional Practice

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Question 1: Identify the **three potential problems** in **lines 6 to 12**. Provide suggestions on how to rectify the problems. (Hints: indentation, case of identifiers, proper naming, and/or comments, etc)

First problem I found was in line 7, written (int a, int b), even though the usage is no problem for the program a and b, freq and amp is actually the same, I think the correct approach is to replace (int a and int b), with (int freq, int amp); so that others can use to understand what the a and b is here meaning
Second problem is between 9 and 11 lines, the code is not very neat and can be solved by organizing **EG:**

```
//Calculate resultant STROUHAL air speed by reading in freq and amp
double calculate_air_speed(int freq, int amp)
{
    double result;
    result=freq*amp* 0.01 / STROUHAL; //amp is converted form CM to M
    return result;
}
```

Third issue here is no comment regarding the description of function. Comment should be given EG line 10//Amp is converted from CM to M
Line 6 Calculate resultant STROUHAL air speed by reading in freq and amp

Question 2: Suggest a suitable **comment respectively** for procedure ***output_air_speed(…)*** **at lines 13-18** and function ***read_integer(…)*** **at lines 24-27**.

For 13 Line: // Calculate and dispaly the Air speed

For 24 Line: // To read in integer from the user, with a parameter for the message to prompt them with.

Question 3: What is the purpose of giving a comment in a program? Do we need to give a **comment** for the **main()** body of a program? Why and why not? This is an open question in **coding convention** discussions.

//Cal..... Comments like this are actually so that other people can understand what the code stands for, so that it is easier to understand. In the main() function, it is not necessary to add comments, because the comments are already given in the previous code, so it is superfluous to add comments.

Question 4: What do you think is/are the **naming principle(s) of an identifier** in a **C++** program. Elaborate your answer with the aid of the following variable declarations at lines 32-33 of the sample code.

string XYZ;
int req_user_to_input_the_age;

Name for underscores, and numbers can be used in Name. If you use a name you need to start it with a letter or underscore and it needs to be case sensitive because the same name with different case will default to other variables by the program. There should be no spaces or other characters in the name, and no keywords such as double, void, etc. should be used as the name. **String name;** **Int age;** **That was better**

Question 5: Now, **double check your 2.1P task Hello User 1 program deliverables**. Provide a critical reflection in **100 – 130 words** on the **quality of your own implementation**, in terms of adherence to coding conventions, and the above discussed professional practice in software development. Make good use of **programming terminologies** in your elaboration.

In Task 2.1P, Hello, User 1, let's go create a calculation program to calculate the flight speed of a bird. When the program starts running, it will ask you for your name and age, and it will ask you to enter the bird's name, wing frequency, and amplitude. I use local variables like age and name, and the bird's wing frequency and amplitude to enter these details. And I construct a formula with function parameters to calculate the speed of the bird as it flies. In 2.1P TASK, I think the problem in the coding conventions mentioned earlier, such as For line 7, it says (int a, int b), so although the usage is correct, others don't know what a and b stand for, and I think the correct way to do it is to put (int a and int b), (int freq, int amp); in my coding, I am putting freq and amp instead of a and b. Also, we can add some comments in the code, for example, //amp is converted form CM to M. I think my code is indented

correctly, and in the program before int main(), I give proper comments or notes. Not only that, I think the readability of my code is good and uncluttered when building the code. I think in future tasks I should keep adding comments or remarks to the program and make sure it is readable and indented correctly.

End of questions (5)