Lab 1: Pseudo Code & Algorithm

⊙ Class	PF Lab
⊙ Type	Lab
☑ Reviewed	☐
▦ Date	@October 11, 2023

▼ Task 1

Write a program along with its pseudo code to add two integers and display the sum on the console.
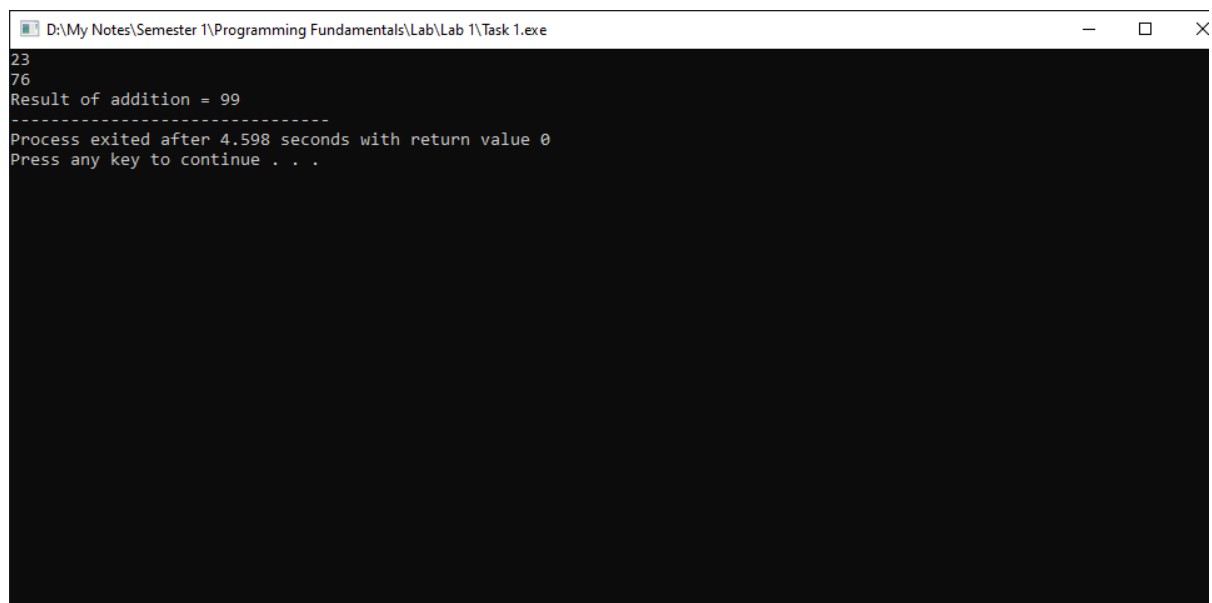
Pseudo Code

1. Create two integer variables as 'num' and 'num1'.

2. Get these two integer as input from users and store.

3. Create integer variable named "res".

4. Add 'num' and 'num1' and store it in 'res'.

5. Display the 'res' on screen.

Source Code

```
#include<iostream>
using namespace std;
int main()
{
  int num=0;
  int num1=0;
  cin>>num>>num1;
  int res = 0;
  res = num+num1;
  cout<<"Result of addition = "<<res;
  return 0;
}
```

Output

```
D:\My Notes\Semester 1\Programming Fundamentals\Lab\Lab 1\Task 1.exe
23
76
Result of addition = 99
-------------------------------
Process exited after 4.598 seconds with return value 0
Press any key to continue . . .
```

▼ Task 2

Amna Buys 5 boxes of chocolates. Each box has 23 chocolates in it. She wants to sell a chocolate for Rs. 13. Write a Pseudo code, along with program and display:

1. Total no. of chocolates Amna has.

2. Total no. of rupees she will earn after selling all chocolates.

3. Total no. of rupees she will earn after selling 19 chocolates.

Pseudo Code

1. Create an integer variables as 'total_units'

2. Multiply 5 with 23 and store the res in 'total_units'.

3. Create an integer variables as 'unit_price' and Store price of one chocolate i.e 13.

4. Create two integer variable named as 'tot_rev' and 'par_rev'.

5. Multiply 'total_units' with 'unit_price' and store result in 'total_rev'.

6. Multiply 'total_units' with '19' and store result in 'par_rev'.

7. Display 'total_units' as total number of chocolates on console.

8. Display 'tot_rev' and 'par_rev' on console.

Source Code

```
#include<iostream>
using namespace std;
int main()
{
  int total_units = 5*23;
  int unit_price = 13;
  int tot_rev = 0;
  int par_rev = 0;
  tot_rev = total_units*unit_price;
  par_rev = unit_price*19;
  cout<<"Total Chocolates:"<<total_units<<endl;
  cout<<"Revenue after selling all chocolates:"<<tot_rev<<endl;
  cout<<"Revenue after selling 19 chocolates:"<<par_rev<<endl;
  return 0;
}
```

Output

```
Total Chocolates:115
Revenue after selling all chocolates:1495
Revenue after selling 19 chocolates:247

-------------------------------
Process exited after 0.57 seconds with return value 0
Press any key to continue . . .
```

▼ Task 3

Ahmad takes five quizzes in science. Write a program along with its pseudo code which will calculate the average of all quizzes.
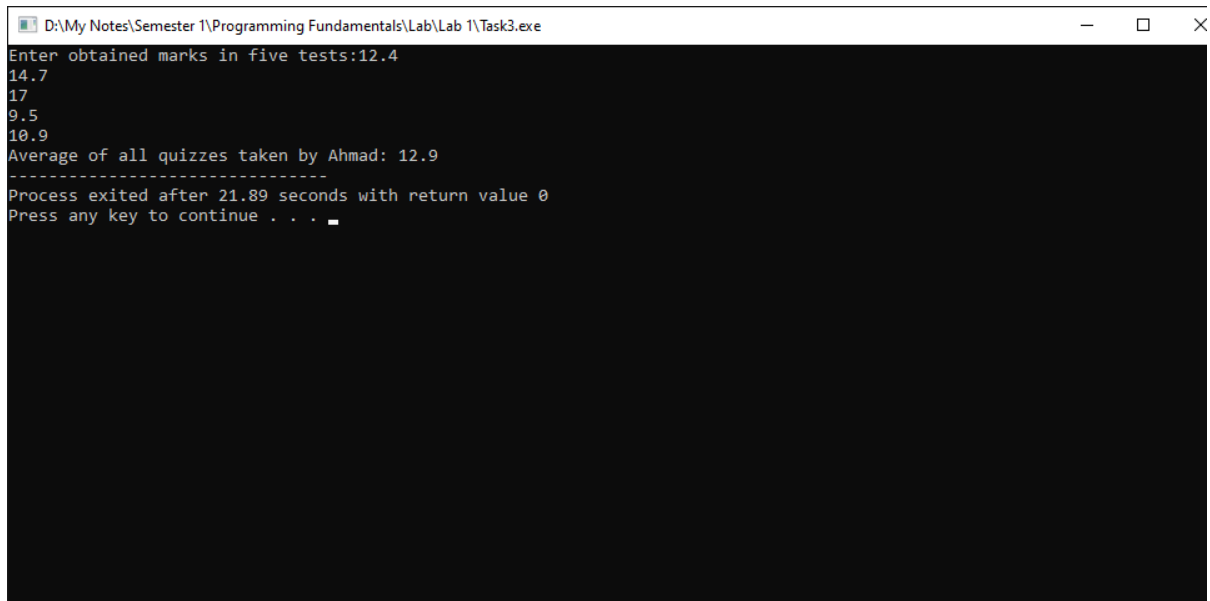
Pseudo Code

1. Create an integer variable as 'total_quizzes' and store '5' in it.

2. Create 5 decimal variables with names in the range 'obt1' to 'obt5'.

3. Get input for 5 obtained marks variable and store.

4. Create decimal variable 'sum'.

5. Add all obtained marks and store in 'sum'.

6. Create decimal variable 'avg'.

7. Divide 'sum' by 'total_quizzes' and store it in 'avg'.

8. Display 'avg' as Average of all tests on console.

Source Code

```cpp
#include<iostream>
using namespace std;
int main()
{
  int total_quizzes = 5;
```

```
    float obt1=0,obt2=0,obt3=0,obt4=0,obt5=0;
    cout<<"Enter obtained marks in five tests:";
    cin>>obt1>>obt2>>obt3>>obt4>>obt5;
    float sum = obt1+obt2+obt3+obt4+obt5;
    float avg = sum/total_quizzes;
    cout<<"Average of all quizzes taken by Ahmad: "<<avg;
    return 0;
}
```

Output