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Section: H

Assignment: PF lab2

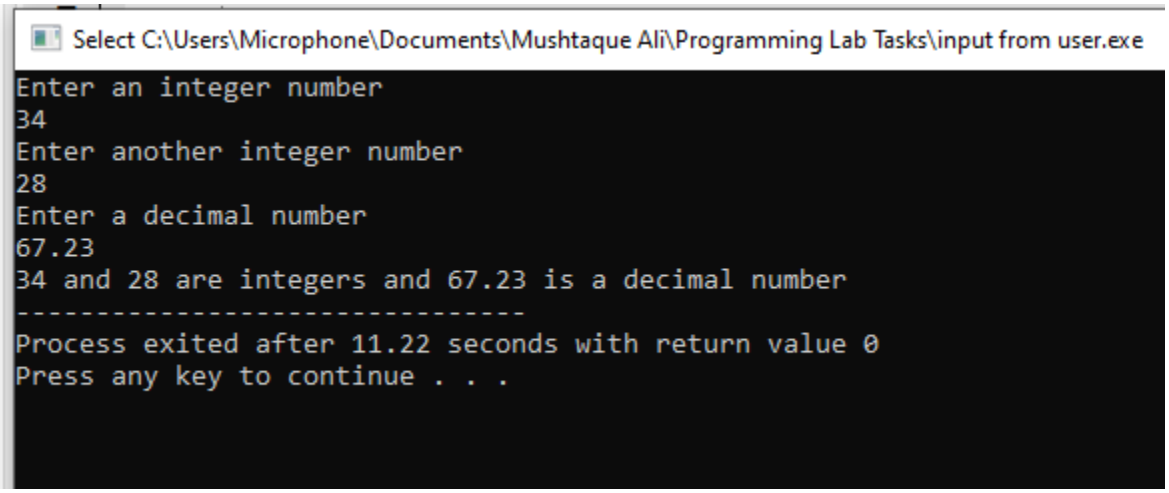
Activity: 01

Write a program that takes 3 values from user. Two values of integer and one value of float data type. Print each result on one line.

INPUT

```
#include <iostream>
using namespace std;
int main ()
{
     int a, b;
     float c;

     cout<<"Enter an integer number"<<endl;
     cin>>a;

     cout<<"Enter another integer number"<<endl;
     cin>>b;

     cout<<"Enter a decimal number"<<endl;
     cin>>c;

     cout<<a<<" and "<<b<<" are integers and "<<c<<" is a
decimal number";

     return 0;
 }
```

OUTPUT



Activity: 02

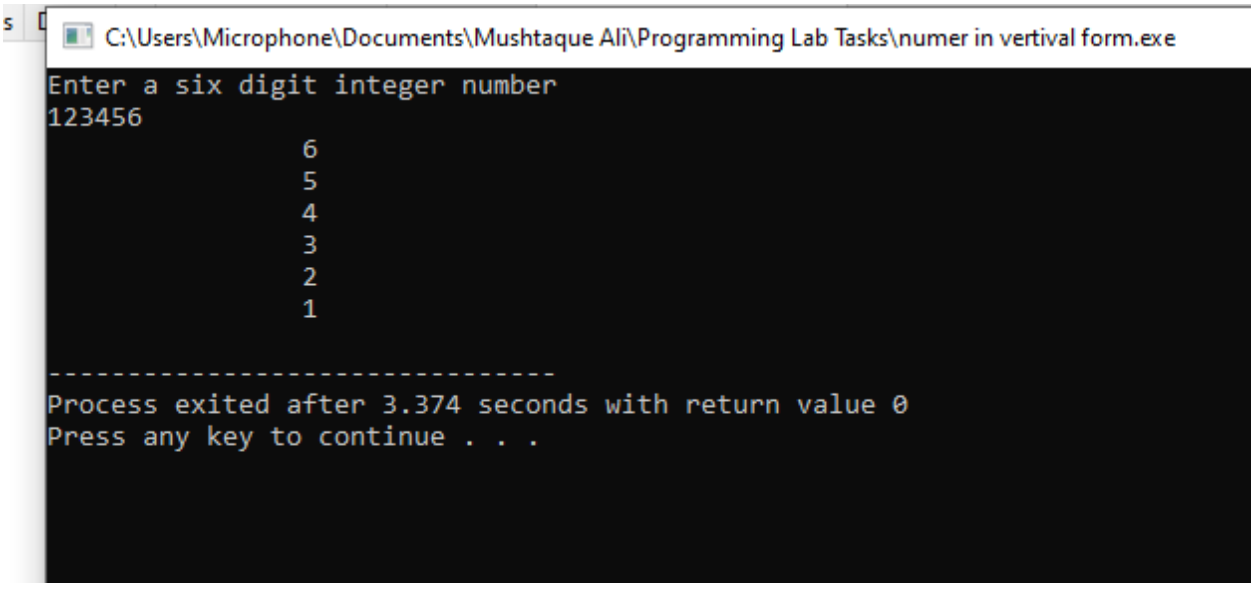
Write a program that inputs a five-digit integer, separates the integer into its Individual digits and prints the digits vertically.

INPUT

```
#include <iostream>
using namespace std;
int main ()
{
      int num;
     cout<<"Enter a six-digit integer number"<<endl;
     cin>>num;
```

```
    cout<<"\t\t"<<num%10<<endl;
    cout<<"\t\t"<<num%100/10<<endl;
    cout<<"\t\t"<<num%1000/100<<endl;
    cout<<"\t\t"<<num%10000/1000<<endl;
    cout<<"\t\t"<<num%100000/10000<<endl;
    cout<<"\t\t"<<num%1000000/100000<<endl;


 return 0;
}
```

OUTPUT



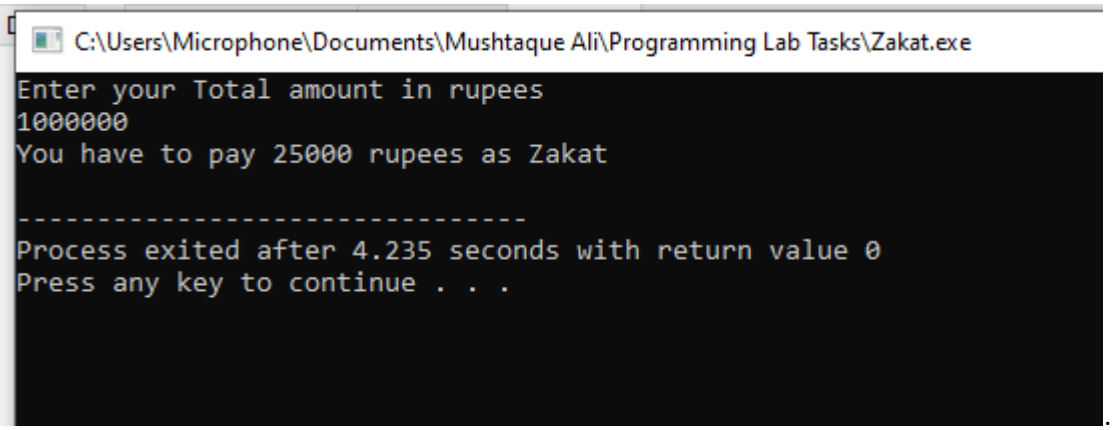
Activity: 03

Make a program where it is asked form user to enter total amount, you have to answer how much ZAKAT to be paid on that amount. ZAKAT is the 2.5% of the total amount

INPUT

```
#include <iostream>


using namespace std;
int main ()
{
     double amount;
     cout<<"Enter your Total amount in rupees"<<endl;
     cin>>amount;


     cout<<"You have to pay "<<2.5/100*amount<<" rupees as
Zakat"<<endl;


  return 0;
 }
```

OUTPUT


C:\Users\Microphone\Documents\Mushtaque Ali\Programming Lab Tasks\Zakat.exe
Enter your Total amount in rupees
1000000
You have to pay 25000 rupees as Zakat

Process exited after 4.235 seconds with return value 0
Press any key to continue . . .

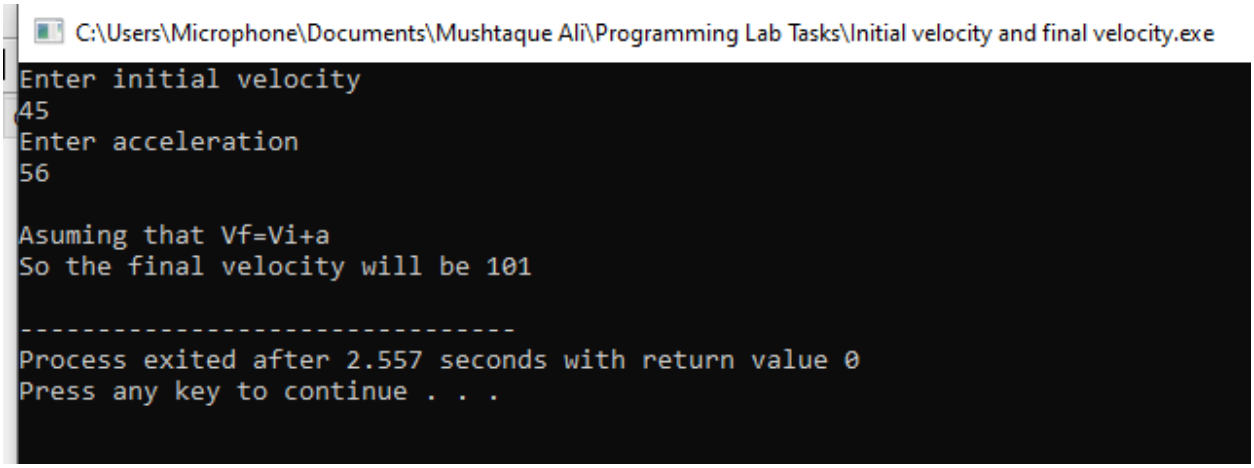
Activity: 04

4. Write a program to take initial Velocity and acceleration from user, save them in respective data types and calculate FINAL VELOCITY as per following formula: FINAL VELOCITY = initial Velocity + acceleration.

INPUT

```
#include <iostream>
using namespace std;
int main ()
{
    float Vi, a, Vf;
    cout<<"Enter initial velocity "<<endl;
    cin>>Vi;

    cout<<"Enter acceleration "<<endl;
    cin>>a;

    cout<<"\nAsuming that Vf=Vi+a"<<endl;
         Vf=Vi + a;
    cout<<"So the final velocity will be "<<Vf<<endl;
    return 0;
}
```

OUTPUT



Activity: 05

5. Take distance and time from user, save them in respective data types and calculate SPEED as per following formula:

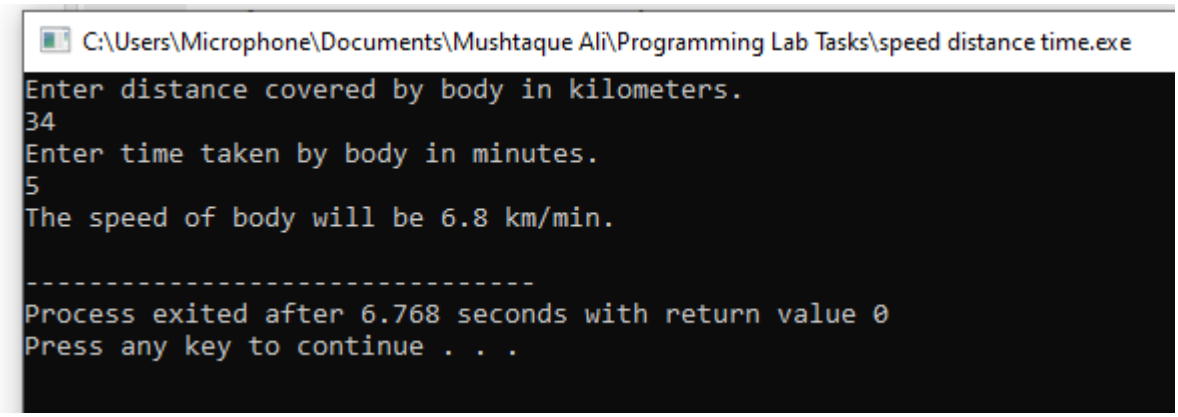
$$Speed = \frac{distance}{time}$$

INPUT

```
#include <iostream>
using namespace std;
int main ()
 {
```

```
    float distance, time, speed;
   cout<<"Enter distance covered by body in kilometers. "<<endl;
   cin>>distance;

   cout<<"Enter time taken by body in minutes."<<endl;
   cin>>time;

    speed = distance/time;
        cout<<"The speed of body will be "<<speed<<"
km/min."<<endl;

    return 0;
}
```

OUTPUT



Activity: 06

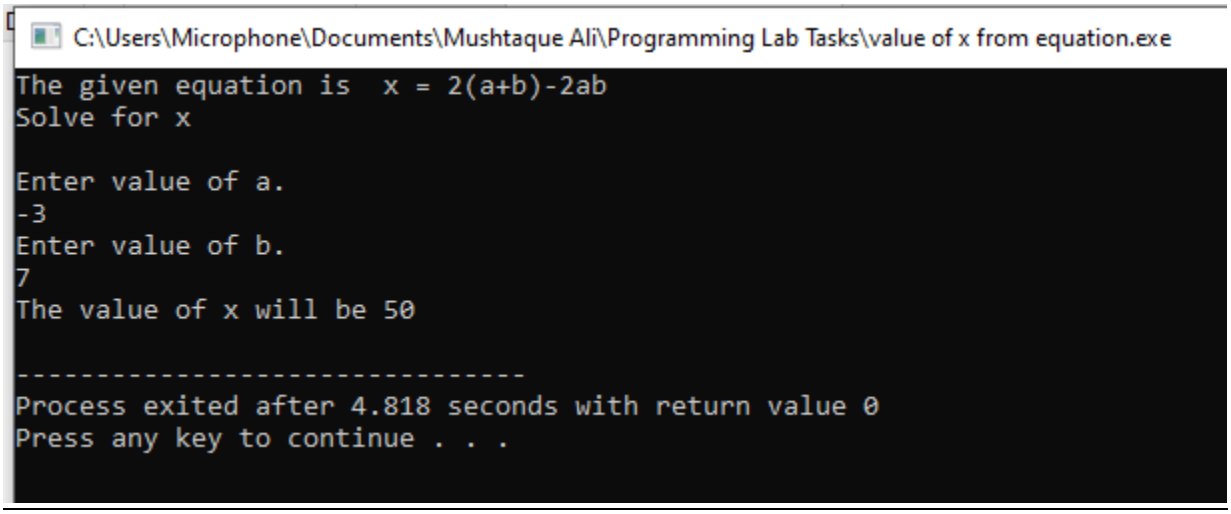
6. Write a program that finds the value of X by using given formula. Take value of ‘a’ and ‘b’ from user.

$$X = 2(a + b) - 2ab$$

INPUT

```
#include <iostream>
using namespace std;
int main()
 {
     float a,b,x;
          cout<<"The given equation is"<<"  x = 2(a+b)-2ab\n";
          cout<<"Solve for x\n\n";
          cout<<"Enter value of a. "<<endl;
    cin>>a;
            cout<<"Enter value of b. "<<endl;
    cin>>b;
                      x = (2*(a+b)-2*a*b);
                cout<<"The value of x will be "<<x<<endl;

    return 0;
}
```

OUTPUT



Activity: 07

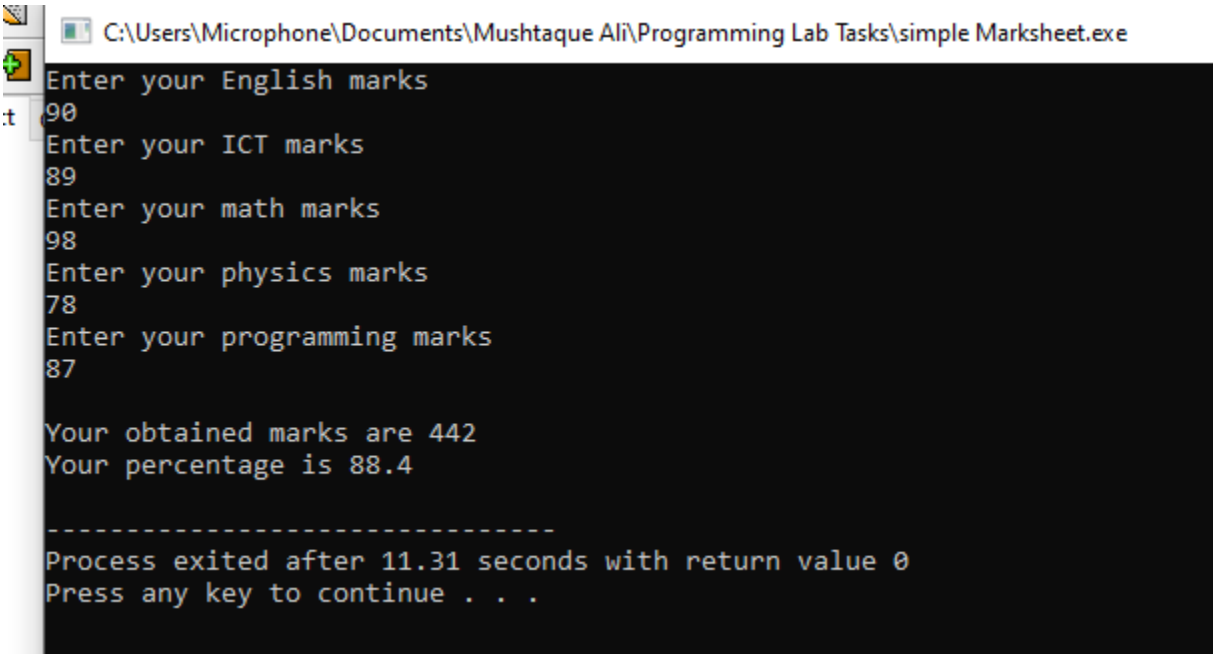
7. Write a program for mark sheet, where user should be able to enter the marks for five subjects. Then, your program should tell him/her his/her obtained marks and percentage. **Note**: You can assume each subject to be of 100 marks. So the total marks would become 500 for five subjects.

INPUT

```
#include <iostream>
using namespace std;
int main ()
{

     int eng, ict, math, phy, prog;
     float obtainm, per;
```

```
    cout<<"Enter your English marks"<<endl;
    cin>>eng;

    cout<<"Enter your ICT marks"<<endl;
    cin>>ict;

    cout<<"Enter your math marks"<<endl;
    cin>>math;

    cout<<"Enter your physics marks"<<endl;
    cin>>phy;

    cout<<"Enter your programming marks"<<endl;
    cin>>prog;

    cout<<"\n";

    obtainm=eng+ict+math+phy+prog;
    cout<<"Your obtained marks are "<<obtainm;

    cout<<"\n";

    per=obtainm/500*100;
    cout<<"Your percentage is "<<per<<endl;

    return 0;
}
```

OUTPUT


C:\Users\Microphone\Documents\Mushtaque Ali\Programming Lab Tasks\simple Marksheet.exe
Enter your English marks
90
Enter your ICT marks
89
Enter your math marks
98
Enter your physics marks
78
Enter your programming marks
87
Your obtained marks are 442
Your percentage is 88.4

Process exited after 11.31 seconds with return value 0
Press any key to continue . . .