**PRACTICAL JANUARY 5th, 2022**

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**1) WAP using functions to extract and add the 3 least significant digits of any integer number.**

#include<iostream>

using namespace std;

int sum3LSD(int);

int main(){

int number;

cout<<"Enter an integer of 3 or more digits: ";

cin>>number;

cout<<"Sum of 3 least significant digits: "<<sum3LSD(number);

return 0;

}

int sum3LSD(int number){

return number%10 + (number/10)%10 + (number/100)%10;

}

**2) WAP using functions to compute the area and perimeter of a right triangle when given the length of the 2 sides.**

#include<iostream>

#include<cmath>

using namespace std;

double calc\_hypotenuse(double, double);

double calc\_perimeter(double, double, double);

double calc\_area(double, double);

int main(){

double base, height;

cout<<"Enter the value of Height: ";

cin>>height;

cout<<"Enter the value of Base: ";

cin>>base;

double hypotenuse = calc\_hypotenuse(base, height);

cout<<"Perimeter = "<<calc\_perimeter(base, height, hypotenuse);

cout<<"\nArea = "<<calc\_area(base, height);

return 0;

}

double calc\_hypotenuse(double base, double height){

return sqrt(base\*base + height\*height);

}

double calc\_perimeter(double base, double height, double hypotenuse){

return base + height + hypotenuse;

}

double calc\_area(double base, double height){

return (base/2.0)\*height;

}

**3) WAP that, given a beginning balance in your savings account, calculates the balance at the end of one year. The interest is 5.3% compounded quarterly. Show the interest earned and balance at the end of each quarter. Present the data in tabular columns with appropriate headings. Use separate functions to compute the interest and print the balance. Attach screenshot for the output.**

#include<iostream>

#include<iomanip>

#include<cmath>

#define INTEREST\_RATE 5.3

using namespace std;

double calc\_interest(double, int);

double calc\_balance(double, int);

int main(){

double balance;

cout<<"Enter the Balance: ";

cin>>balance;

cout<<endl<<"---------------+------------------+-------------";

cout<<endl<<"QUARTER No."<<setw(14)<<"| INTEREST"<<setw(18)<<"| BALANCE";

cout<<endl<<"---------------+------------------+-------------";

cout<<fixed<<setprecision(2);

cout<<endl<<setw(15)<<left<<0<<"| "<<setw(17)<<0<<"| "<<balance;

cout<<endl<<setw(15)<<1<<"| "<<setw(17)<<calc\_interest(balance, 1)<<"| "<<calc\_balance(balance , 1);

cout<<endl<<setw(15)<<2<<"| "<<setw(17)<<calc\_interest(balance, 2)<<"| "<<calc\_balance(balance , 2);

cout<<endl<<setw(15)<<3<<"| "<<setw(17)<<calc\_interest(balance, 3)<<"| "<<calc\_balance(balance , 3);

cout<<endl<<setw(15)<<4<<"| "<<setw(17)<<calc\_interest(balance, 4)<<"| "<<calc\_balance(balance , 4);

cout<<endl<<"---------------+------------------+-------------";

cout<<endl<<setw(36)<<right<<"| FINAL BALANCE = | "<<calc\_balance(balance , 4);

cout<<endl<<setw(36)<<right<<"| TOTAL INTEREST = | "<<calc\_interest(balance , 4);

cout<<endl<<"---------------+------------------+-------------\n";

return 0;

}

double calc\_interest(double balance, int quarter\_number){

return balance\*pow((1 + (INTEREST\_RATE/4)/100), quarter\_number) - balance;

}

double calc\_balance(double balance, int quarter\_number){

return balance + calc\_interest(balance, quarter\_number);

}

**OUTPUT OF Q.3)**

