**C ++ Programming Assessment Test**

#include <iostream>

#include <string>

#include <cmath>

using namespace std;

// Constants

const double CostPerHour = 18.50;

const double CostPerMinute = 0.40;

const double CostOfDinner = 20.70;

class Event {

private:

string eventName;

string firstName;

string lastName;

int numGuests;

int numMinutes;

public:

int numServers;

// Constructor to input event details

Event() {

cout << "Enter Event Name: ";

cin >> eventName;

cout << "Enter First Name: ";

cin >> firstName;

cout << "Enter Last Name: ";

cin >> lastName;

cout << "Enter Number of Guests: ";

cin >> numGuests;

cout << "Enter Number of Minutes: ";

cin >> numMinutes;

}

// Function to calculate the number of servers required

int calculateServers() {

return ceil(static\_cast<double>(numGuests) / 20);

}

// Function to calculate the cost for one server

double calculateServerCost() {

double cost1 = (numMinutes / 60) \* CostPerHour;

double cost2 = (numMinutes % 60) \* CostPerMinute;

return cost1 + cost2;

}

// Function to calculate the total food cost

double calculateFoodCost() {

return numGuests \* CostOfDinner;

}

// Function to calculate the average cost per person

double calculateAverageCost() {

return calculateFoodCost() / numGuests;

}

// Function to calculate the total event cost

double calculateTotalCost() {

return calculateFoodCost() + (calculateServerCost() \* numServers);

}

// Function to calculate the deposit amount

double calculateDeposit() {

return calculateTotalCost() \* 0.25;

}

// Function to display the event details

void displayEventDetails() {

cout << "\nEvent Details for " << eventName << ":" << endl;

cout << "Event Organizer: " << firstName << " " << lastName << endl;

cout << "Number of Guests: " << numGuests << endl;

cout << "Number of Servers Required: " << numServers << endl;

cout << "Total Food Cost: " << calculateFoodCost() << endl;

cout << "Average Cost Per Person: " << calculateAverageCost() << endl;

cout << "Total Event Cost: " << calculateTotalCost() << endl;

cout << "Deposit Amount: " << calculateDeposit() << endl;

}

};

int main() {

Event event; // Create an event object

// Calculate the number of servers required

event.numServers = event.calculateServers();

// Display event details

event.displayEventDetails();

return 0;

}

