#include <stdio.h>

// Function to calculate weighted accuracy from three quarters

float accuracy(){

float a1, a2, a3;

printf("Enter values of accuracies 1, 2, 3 quarters (where 3 is the latest quarter) respectively:");

scanf("%f %f %f", &a1, &a2, &a3);

float x = 0.5\*a3 + 0.3\*a2 + 0.2\*a1; // Weighted average, giving more weight to the latest quarter

return x;

}

// Function to find the two largest accuracy values and their positions (1, 2, or 3)

void findTwoLargest(float a, float b, float c, float \*largest, float \*secondLargest, int \*posLargest, int \*posSecondLargest) {

if (a > b) {

if (a > c) {

\*largest = a;

\*posLargest = 1;

if (b > c) {

\*secondLargest = b;

\*posSecondLargest = 2;

} else {

\*secondLargest = c;

\*posSecondLargest = 3;

}

} else {

\*largest = c;

\*posLargest = 3;

\*secondLargest = a;

\*posSecondLargest = 1;

}

} else {

if (b > c) {

\*largest = b;

\*posLargest = 2;

if (a > c) {

\*secondLargest = a;

\*posSecondLargest = 1;

} else {

\*secondLargest = c;

\*posSecondLargest = 3;

}

} else {

\*largest = c;

\*posLargest = 3;

\*secondLargest = b;

\*posSecondLargest = 2;

}

}

}

// Function to calculate bias based on pattern of values

float bias(float a, float b, float c) {

// Checks for linear pattern

if((b - a) == (c - b)){

float x = c + (c-b) + (b-a)/2;

return x; // Return linear bias value

} else {

float y = 0.5\*c + 0.3\*b + 0.2\*a;

printf("\n Bias=%f", &y); // Weighted average bias for non-linear pattern

// Note: 'return y;' is commented out (likely an error)

}

}

// Function to get team name by position of largest accuracy

const char\* team(int posl){

if(posl == 1){

return "demand team";

}

else if(posl == 2){

return "marketing team";

}

else{

return "stat ml team";

}

}

// Same as team(), used for second largest

const char\* team2(int possecl){

if(possecl == 1){

return "demand team";

}

else if(possecl == 2){

return "marketing team";

}

else{

return "stat ml team";

}

}

int main() {

// Read weighted accuracies for demand, marketing, and stat ML teams

float d, m, s;

d = accuracy();

m = accuracy();

s = accuracy();

// Identify top two teams by accuracy

float l, sl;

int posl, possecl;

findTwoLargest(d, m, s, &l, &sl, &posl, &possecl);

printf("The two largest accuracies are: %f (position %d) and %f (position %d)\n", l, posl, sl, possecl);

// Bias calculation for the top team

float x, y, z;

printf("Enter bias values (enter by highest accuracy) for %s: ", team(posl));

scanf("%f %f %f", &x, &y, &z);

float b1 = bias(x, y, z);

// Bias calculation for the second-best team

printf("Enter bias values (enter by highest accuracy) for %s: ", team2(possecl));

scanf("%f %f %f", &x, &y, &z);

float b2 = bias(x, y, z);

// Forecast inputs from both top teams

float f1, f2;

printf("Enter forecast values for both teams: ");

scanf("%f %f", &f1, &f2);

// Forecast decision logic based on bias sign

float forecast;

if((b1 > 0 && b2 < 0) || (b2 > 0 && b1 < 0)){

// Mixed biases: take average forecast

forecast = (f1 + f2)/2;

}

else {

// Same direction: adjust forecast based on bias percentage

if(b1 > 0){

forecast = f1 - (b1 \* f1)/100;

} else {

forecast = f1 + (b1 \* f1)/100;

}

}

// Output final forecast

printf("forecast = %f", forecast);

return 0;

}