```cpp
#include <iostream>
using namespace std;

// CPSC 240-05
//
// Matthew Sanchez and Alexander Gomez
//

int main()
{
    //Q1
    int drinks;
    int sandwiches;
    int drinksPrice = 2;
    int sandwichesPrice = 4;
    int bill, bill2, finalbill;


    cout << "--------------------MENU----------------- " << endl;
    cout << " Drinks.............................$" << drinksPrice << endl;
    cout << " Sandwiches.......................... $" << sandwichesPrice <<
      endl;
    cout << "          How many drinks: " << endl;
    cin >> drinks;
    cout << "          How many sandwiches: " << endl;
    cin >> sandwiches;
    _asm {
        // bill = drinks * drinkPrice + sandwiches * sandwichesPrice
        mov eax, sandwichesPrice;            // eax = sandwichesPrice
        imul sandwiches;                     // edx:eax = sandwiches *
          sandwichPrice
        mov bill, eax;                      // bill = sandwichesPrice
        mov eax, drinksPrice;              // eax = drinkPrice
        imul drinks;                       // edx:eax = drinks * drinkPrice
        mov bill2, eax;                   // bill2 = drinkPrice

        mov eax, bill;
        add eax, bill2;
        mov finalbill, eax;

    }
    cout << "       Your total bill $" << finalbill << endl;


    //Q2

    int a, b, c, h, length1, width, rPerimeter, tPerimeter, tArea, rArea;
    cout << "Enter the values of a,b,c, and h  for the triangle: " << endl;
    cin >> a >> b >> c >> h;
    cout << "Enter the length and the width of the rectangle: " << endl;
    cin >> length1 >> width;
    short two = 2;
```

```
51      _asm {
52          // Calculate tPerimeter
53          mov eax, a;             // eax == a
54          add eax, b;             // eax == a + b
55          add eax, c;             // eax == a + b + c
56          mov tPerimeter, eax;    // tPerimeter == a + b + c
57
58          // Calculate rPerimeter
59          mov eax, length1;       // eax == length
60          add eax, width;         // eax == length + width
61          add eax, eax;           // eax == (2 * length) + ( 2 * width)
62          mov rPerimeter, eax;    // rPerimeter == (2 * length) + ( 2 * width)
63
64          // Calculate rArea
65          mov eax, length1;       // eax = length
66          imul eax, width;        // eax = length * width
67          mov rArea, eax;         // rArea = length * width
68
69          // Calculate tArea
70          mov eax, c;             // eax == c
71          mov ebx, h;             // ebx == h
72          imul ebx;               // eax == c * h
73          cdq;                    // edx:eax == c * h
74          idiv two;               // eax == quotient, edx == remainder
75          mov tArea, eax;         // tArea == quotient
76      }
77      cout << "Triangle" << endl;
78      cout << "    Area....................................." << tArea << endl;
79      cout << "    Perimeter................................" << tPerimeter <<
          endl;
80      cout << "Rectangle" << endl;
81      cout << "    Area....................................." << rArea << endl;
82      cout << "    Perimeter................................" << rPerimeter <<
          endl;
83
84
85
86      // Q3
87
88      short C, F, five, nine;
89      five = 5;
90      nine = 9;
91      cout << "Enter temperature in Fahrenheight: ";
92      cin >> F;
93      _asm {
94          mov ax, F;              // ax == F
95          sub ax, 32;             // ax == F - 32
96          imul five;              // ax == 5(F - 32)
97          cwd;                    // dx:ax == 5(F -32)
98          idiv nine;              // ax == quotient, dx == remainder
99          mov C, ax;              // ax == quotient
100     }
```

```
101     cout << F << "F is " << C << "C" << endl;
102
103
104
105     // Q4
106     short input;
107     short output;
108     cout << "Enter a 3 digit int number : "<< endl;
109     cin >> input;
110     short hundred = 100;
111     short ten = 10;
112     short d3, d2, d1;
113     _asm {
114         // digit 3
115         mov ax, input;          // ax = input
116         cwd;                        // dx:ax = input
117         idiv hundred;               // ax = quotient, dx = remainder
118         mov d3, ax;                 // d3 = quotient
119
120         // digit 2
121         mov ax, dx;                 // ax = previous remainder
122         cwd;                        // dx:ax = previous remainder
123         idiv ten;                   // ax = quotient, dx = remainder
124         mov d2, ax;                 // d2 = quotient
125
126         // digit 1
127         mov ax, dx;                 // ax = remainder
128         mov d1, ax;                 // d1 = remainder
129
130         //sum
131         add ax, d2;                 // ax = d1 + d2
132         add ax, d3;                 // ax = d1 + d2 + d3
133         mov output, ax;             // output = sum
134     }
135     cout << "The total of digits in " << input << " is " << output << endl;
136
137
138     return 0;
139 }
```