# Varius conversions using “switch”

Enter “L” for pounds, Enter “M” for miles OR Enter F for fahrenheit

Get choice from user

If choice == “L”

source = “pounds”

Y

N

if choice == “F”

source = “degrees fahrenheit”

Y

N

source = “miles”

if choice == “M”

Y

A

Y

A

if choice == “”

Get input from user

N

Kilograms = input \* .453515

"lbs. = kilograms”

If choice == “L”

Y

Celsius = (input -32) \* 5/9

"degrees F = celsius"

N

If choice == “F”

Y

N

If choice == “M”

Kilometers = input \* 1.6093440

"miles = kilometers

Y

N

“NOT SUPPORTED”

1. Display Instructions
2. Get user input
3. Customize input
4. If valid selection
   1. Get input for degrees
   2. If:
      1. Celsius entered; multiply by 9/5 then add 32
      2. Fahrenheit entered; subtract 32 and multiply by 5/9
      3. Fahrenheit entered; subtract 32 and multiply by 5/9
5. Display results

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    Gateway

    Structured Programming

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    Demonstrates conversions using switch

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#include <iostream>

#include <math.h>

using namespace std;

const double FREEZING\_in\_FAHRENHEIT = 32;

const double KG\_in\_LB = .453515;

const double KM\_in\_Mile = 1.6093440;

const char FAHRENHEIT = 'F';

const char MILES = 'M';

const char POUNDS = 'L';

int main()

{

    char choice;

    double input;

    double Celsius, Kilograms, Kilometers;

    string source;

    cout<<"This program performs different conversions.\n";

    cout<<"    L) Enter pounds and display kilograms\n";

    cout<<"    M) Enter miles and display kilograms\n";

    cout<<"    F) Enter fahrenheit and display celsius\n";

    cout<<"Please choose your input:";

    cin>>choice;

    choice=toupper(choice);

    // Get appropriate text for query

    switch (choice) {

        case FAHRENHEIT:

            source = "degrees fahrenheit";

            break;

        case MILES:

            source = "miles";

            break;

        case POUNDS:

            source = "pounds";

            break;

        default:

            source = "";

            break;

    }

    if (source != "") {

        cout<<"\nPlease enter the "<<source<<" -> ";

        cin>>input;

    }

    // Perform appropriate calculation

    switch (choice) {

        case FAHRENHEIT:

            Celsius = (input - FREEZING\_in\_FAHRENHEIT) \* 5/9;

            cout<<input<<" degrees fahrenheit = "<<Celsius<<" celsius.\n";

            break;

        case MILES:

            Kilometers = input \* KM\_in\_Mile;

            cout<<input<<" miles = "<<Kilometers<<" kilometers.\n";

            break;

        case POUNDS:

            Kilograms = input \* KG\_in\_LB;

            cout<<input<<" lbs. = "<<Kilograms<<" kilograms.\n";

            break;

        default:

            cout<<source<<" NOT SUPPORTED\n";

            break;

    }

}