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#include <iostream>
#include <ctime>
#include <cstdlib>
/*
* author: in class
* date: 11/20/2023
* purpose: this program does jiffies to seconds and seconds to jiffies
*/
using namespace std;

//this is the prototype to identify the function
void showMenu();
double jiffyToSecond(double time);
double secondToJiffy(double time);

int main()
{
    //declare variables
    //input: isJiffy?, numTime
    bool isJiffy, isValid;
    double numTime;
    int selection;
    //output: result
    double result;
    //begin a do loop to see what type of time the user has
    do
    {
        //ask user if jiffy or second through the showMenu()
        showMenu();
        cin >> selection;
        //if user selects jiffy
        switch (selection)
        {
            case 1: //set is jiffy to true
                isJiffy = true;
                //set is valid to true
                isValid = true;
                break;
            case 2: //else if user selects second
                //set is jiffy to false
                isJiffy = false;
                //set is valid to true
                isValid = true;
                break;
            default: //otherwise
                //set is valid to false
                isValid = false;
        }

        //loop while is valid is false
    }
}

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    } while (!isValid);

    //get the number of time from the user
    cout << "How much time are we working with here?";
    cin >> numTime;

    //if is jiffy is true
    if (isJiffy)
    {
        //result is set to jiffyToSecond()
        result = jiffyToSecond(numTime);
    }
    else//otherwise
    {
        //result is set to secondToJiffy()
        result = secondToJiffy(numTime);
    }

    //show user result with percision of 3
    if (isJiffy)
    {
        cout << "The result is " << numTime << " jiffies is " << result << "
seconds.";
    }
    else
    {
        cout << "The result is " << numTime << " seconds is " << result << "
jiffies.";
    }

    //end main method
    return 0;
}

//this method will show the menu to the user
void showMenu()
{
    cout << "What type of time do you have?\n";
    cout << "1: Jiffy\n";
    cout << "2: Second\n";
}

//this method will convert the amount of jiffies to seconds
//param time - this amount of time the user has inputted
//return the number of seconds
double jiffyToSecond(double time)
{
    //return numTime / 100
    return (time / 100);
}

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//this method will convert the amount of seconds to jiffies
//param time - this amount of time the user has inputted
//return the number of jiffies
double secondToJiffy(double time)
{
    //return numTime * 100
    return (time * 100);
}
```