CS116

Lab 1

Program Description:

- User selects appropriate number to perform a conversion.
- Logic:
  - Get input from user
    - if user wants to convert hours to seconds then
      - Call corresponding function SecondsToHours()
    - if user wants to convert fadfr ti cekcksauhd then
      - Call corresponding function FahrenheitToCelsius()
    - if user wants to convert celcoudsf to fahreheit then
      - Call corresponding function CelsiusToFahrenheit()

Source Code:

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

void printMeFirst(string name, string courseInfo);
void SecondsToHours ();
void FahrenheitToCelsius ();
void CelsiusToFahrenheit ();

int main() {

    /* Print my info first*/
    printMeFirst("Arhum Shahid","Lab1: CS-116 - Conversion");

    cout << "Choose a selection below: \n"
    "1 - Seconds to hours, mins and seconds \n"
    "2 - Fahrenheit to Celsius \n"
    "3 - Celcius to Fahrenheit \n"
    "4 - Quit"

    << endl ;
```

```cpp
    int j = 0;
do {
    cin >> j ;
    cout << "The value that you input: " <<  j << endl;

    if (j == 1){
        cout << "Running First program" << endl;

        /* Going to call function to convert seconds to hours and seconds*/
        SecondsToHours ();
        break;

    } else if (j == 2) {
        cout << "Running Second program" << endl;

        /* Call function to convert to Celsius*/
        FahrenheitToCelsius ();
        break;

    } else {
        cout << "Running Third program" << endl;

        /* Call function to convert to Fahrenheit*/
        CelsiusToFahrenheit ();
        break;

    }


} while (j != 4);

/* Quiting the program*/
cout << "Quitting the program, bye" << endl;
}


/* All Function definitions below*/

void printMeFirst(string name, string courseInfo)
{
cout <<" Program written by: "<< name << endl; // put your name here
cout <<" Course info: "<< courseInfo << endl;
time_t now = time(0); // current date/time based on current system
char* dt = ctime(&now); // convert now to string for
 cout << " Date: " << dt << endl;
}


void SecondsToHours ()
```

```cpp
{
      int sec, h, m, s;
      cout << "Enter the number of seconds:";
      cin >> sec ;
      cout << "The number of seconds: " << sec << endl;

      /* Convert seconds to hour, min and seconds */
      h = (sec/3600);
      m = (sec -(3600*h))/60;
      s = (sec -(3600*h)-(m*60));

      printf("H:M:S - %d:%d:%d\n",h,m,s);

}


void FahrenheitToCelsius ()
{
      float celsius;
    float fahrenheit;
    cout << "Enter the temp to convert:" << endl;
      cin >> celsius ;
      cout << "I am going to convert " << celsius << " to Fahrenheit" << endl;

    fahrenheit = (celsius - 32) * 5 / 9;
    cout << "Fahrenheit = " << fahrenheit << endl;

}


void CelsiusToFahrenheit ()
{
      float celsius;
    float fahrenheit;
    cout << "Enter the temp to convert:" << endl;
      cin >> fahrenheit ;
      cout << "I am going to convert " << fahrenheit << " to Celsius" << endl;

    celsius = ((fahrenheit * 9) / 5) + 32;
    cout << "Celsius = " << celsius << endl;

}
```

```
 Program written by: Arhum Shahid
 Course info: Lab1: CS-116 - Conversion
 Date: Mon Feb 11 07:11:27 2019

Choose a selection below:
1 - Seconds to hours, mins and seconds
2 - Fahrenheit to Celsius
3 - Celcius to Fahrenheit
4 - Quit
The value that you input: 2
Enter the temp to convert:
Enter valid number
Quitting the program, bye
```

Fig 1: Test Case 1

```
 Program written by: Arhum Shahid
 Course info: Lab1: CS-116 - Conversion
 Date: Mon Feb 11 06:24:38 2019

Choose a selection below:
1 - Seconds to hours, mins and seconds
2 - Fahrenheit to Celsius
3 - Celcius to Fahrenheit
4 - Quit
The value that you input: 3
Running Third program
Enter the temp to convert:
I am going to convert 40 to Celsius
Celsius = 104
Quitting the program, bye
```

Fig 2: Test Case 2