Programming week 9 assignment

#include <stdio.h>

#include <math.h>

float timeFunc(); // defining all the functions

float roundTime(float time);

float rtime;

float hour, time, returnTime;

float returnRate(float time);

void timeRate(float time, float rate);

const float dayRate = 23.9; // constants

const float nightRate = 12.6;

void main()

{

time = timeFunc();

rtime = roundTime(time); // round time up

timeRate(rtime, returnRate(rtime)); // ensures rate is charged on the rounded

}

float timeFunc()

{

float hours, mins; // initialise

printf("Please enter the current hour: "); // allows user to print hours and minutes to the screen

scanf\_s("%f", &hours);

printf("Please enter the current minute: ");

scanf\_s("%f", &mins);

if (hours > 23) { // hours must be less than 24

hours = 23;

}

if (mins > 59) { // 60 minutes in an hour

mins = 59;

}

float time = hours + (mins / 60); // converts minutes into appropriate form

printf("Time = %0.2f\n", time);

return time;

}

float roundTime(float time)

{

rtime = ceil(time); // round up function in math.h

printf("Time %0.2f \n ", rtime);

return time;

}

float returnRate(float time)

{

float elecPrice = time < 8 ? nightRate : dayRate; // determine day/night rate

return elecPrice;

}

void timeRate(float time, float rate)

{

printf("Electricity price at %0.2f is %.2f c/kWh \n", time, rate); // prints electricity to the screen

}

Text

Description automatically generated