```
Script started on 2023-10-26 14:52:43-05:00 [TERM="xterm" TTY="/dev/pts/2" COLUMNS=
a_vitale3@ares:~$ pwd
/home/students/a_vitale3
a_vitale3@ares:~$ cat WhatTimeIsIt.info
Name: Andrew Vitale

Class: CSC121



Activity: What Time Is It

Level: 3



Description:



Takes a time and converts it to military time (14:00) or standard time (2:00 pm)

a_vitale3@ares:~$ show-code WhatTimeIsIt.cpp


WhatTimeIsIt.cpp:
```

```cpp
#include <iostream>
#include <iomanip>
#include <limits>

using namespace std;

int main(void)
{
        string input, timeOfDay;
        short int InputHour = -1, OutputHour = 0, minutes = 0;
        char user = 'y';

        cout << "Welcome to the Time Conversion Program\n";

        while(user != 'n')
        {
                cout << "\nBegin by entering your time: ";
                if (isdigit(cin.peek()))
                {
                        cin >> InputHour;
                        cin >> ws;
                        if (cin.peek() == ':')
                        {
                                cin.ignore(1, ':');
                                if (isdigit(cin.peek()))
                                {
                                        cin >> minutes;
                                }
                        }
                }
                getline(cin, input);
                if ((OutputHour >= 0 && InputHour < 24) && (minutes >= 0 &&
                {
                        if (input.length() >= 2)
                        {
                                if (input[0] == 'p' && input[1] == 'm' &&
                                {
                                        InputHour += 12;
                                }
                                else if (input[0] == 'a' && input[1] == 'm
                                {
                                        InputHour -= 12;
                                }
                        }
                        if (InputHour != 12)
                        {
                                OutputHour = InputHour % 12;
                        }
                        else
                        {
                                OutputHour = InputHour;
                        }
                        cout << "You've entered ";
                        cout << setw(2) << OutputHour;
                        cout << ":" << setfill('0') << setw(2) << minutes;
                        cout << " in the ";
                        if (InputHour == 0)
                        {
                                cout << "midnight";
                        }
                        else if (InputHour > 12 && InputHour <= 18)
                        {
                                cout << "afternoon";
                        }
                        else if (InputHour >= 5 && InputHour < 12)
                        {
                                cout << "morning";
                        }
                        else if (InputHour == 12)
                        {
                                cout << "noon";
                        }
                        else if (InputHour < 5 || InputHour > 18)
                        {
                                cout << "night";
                        }
                }
                else
                {
                        cerr << "That time is not correct, please enter a
```

```
    81                  }
    82                  InputHour = -1;
    83                  minutes = 0;
    84                  cout << "\nWould you like to type in another time? ";
    85
    86                  cin >> user;
    87                  cin.ignore(numeric_limits<streamsize>::max(), '\n');
    88                  }
    89
    90
    91          cout << "\nThank you for using the Time Conversion Program" << end
    92
    93          return (0);
    94
    95  }
a_vitale3@ares:~$ CPP WhatTimeIsIt
WhatTimeIsIt.cpp***


a_vitale3@ares:~$ ./WhatTimeIsIt.out
Welcome to the Time Conversion Program

Begin by entering your time: 15:34
You've entered  3:34 in the afternoon
Would you like to type in another time? y

Begin by entering your time: 2:45 am
You've entered 02:45 in the night
Would you like to type in another time? yes

Begin by entering your time: 7:30 pm
You've entered 07:30 in the morning
Would you like to type in another time? yes

Begin by entering your time: 4:34am
You've entered 04:34 in the night
Would you like to type in another time? no

Thank you for using the Time Conversion Program
a_vitale3@ares:~$ cat WhatTimeIsIt.tpq
Q1:

For some times, you can be certain whether it is morning or afternoon.

Which are these?



A1:

5am to 12pm is the morning and 12pm to 6pm is the afternoon.
```

```
Q2:

When you cannot be sure based on the hours alone, what clue can you rely on to

tell you if it is a morning or afternoon time?



A2:

I can rely on if it's after or before noon.



Q3:

How do you tell when you are at the end of the input line?



A3:

am/pm



Q4:

When do you need to use the peek function here?



A4:

I used it to find the hour entered, the colon, the minutes, and the am/pm.



Q5:

Hmm...when there's spacing (i.e. ' ', '\t', etc.) in the stream, what will peek do

Is there some way to get around -- or past -- this problem?



A5:

cin.peek will grab whatever it sees, so we have to ignore what we don't want or

find exactly what we want. cin.ignore is a good tool to use.
```

Q6:

Can your program handle the user typing "A.M."or "P.M.",

too (i.e. capitalized &/or with dots)?

A6:

yes, it can handle it.

Q7:

Speaking of "?.m.", after you've looked at what you want,

what do you do with the rest of the user's input line, anyway?

A7:

Put their hour and minutes in some variables

Q8:

What is a driver, anyway?

A8:

lines of code that test/check your functions

Q9:

What kind of loop did you use for your driver? What is your driver's condition?

A9:

a loop that would be used is switch.

Q10:

Can your driver handle both upper- and lower- case entries for it's condition?

A10:

It can handle upper and lowercase entries.

Q11:

Can your driver handle both 'y'and 'yes'for the user's response to it's question?

What library function (& constant) might help you here?

A11:

It can handle 'y' and 'yes' entries. cin.ignore will be helpful.

Q12:

How many branches does your time input function have?

How many tests will be required to thoroughly test it?

A12:

It will require a good ammount. I only need to test it 4-6 times.

Q13:

Technically, the loop's condition adds to the required testing for your program.

How many new tests are added by your driver's condition?

Can these be done during a single run of the program? How many runs will be require

A13:

about 2 test would be added. This can be done during the run of the program.a_vital
exit

Script done on 2023-10-26 14:56:06-05:00 [COMMAND_EXIT_CODE="0"]