```cpp
/*
P2 Memo
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*/

#include <iostream>
#include <cstdlib>

using namespace std;

int main()
{
    //Named constants
    const int ERR_CONV = -1;
    const int ERR_VALUE = -2;

    //Creating basic menu items
    cout << "Option A:  Get temperature input" << endl
         << "Option B:  Get the speed you were driving" << endl;

    //Getting input from the user
    char chInput = '\0';
    cout << "Please select any one of the above two options:";
    cin >> chInput;

    //Evaluating the input provided by the user for the menu options
    switch(chInput)
    {
        case 'a':
        case 'A':
        {
            //Option A
            int intTemp = 0;
            string strMessage = "";

            //Getting input
            cout << "Please type in the current temperature:";
            cin >> intTemp;

            //Validating input
            if(cin.fail())
            {
                cout <<"Please use only numbers for the temperature.  Please run the program again";
                exit(ERR_CONV);
            }

            //Outputting a valid option
            if(intTemp >-273 && intTemp <= 0)
            {
                strMessage = "Stay indoors! You may freeze.";
            }
            else if(intTemp > 0 && intTemp <= 12)
            {
                strMessage = "Nice and cold.  Wear a jacket.";
            }
            else if(intTemp > 12 && intTemp <=20)
            {
                strMessage = "Cool and comfortable.";
            }
            else if(intTemp > 20)
            {
                strMessage = "Getting warmer.  Wear sunscreen";
            }
            else
            {
                strMessage = "Please make sure you enter a valid temperature!";
            }
            cout << strMessage << endl;
            break;
        }
        case 'b':
        case 'B':
        {
            //Option B
            double dblDistance = 0;
            int intTime = 0;
            int intSpeed = 0;
            //Get the distance travelled
            cout << "Please type the distance travelled (km):";
            cin >> dblDistance;

            //Ensuring that there was no conversion errors
```

```
84              if(cin.fail())
85              {
86                  cerr <<"Please use only numbers for the distance.  Please run the program again";
87                  exit(ERR_CONV);
88              }
89              //Ensuring the distance was a positive number
90              if(dblDistance < 0)
91              {
92                  cerr << "Please provide a positive speed"  << endl;
93                  exit(ERR_VALUE);
94              }
95
96              //Get the time travelled
97              cout << "Please type in the time it took to travel (minutes):";
98              cin >> intTime;
99              //Ensure no conversion errors
100             if(cin.fail())
101             {
102                 cerr <<"Please use only numbers for the time.  Please run the program again";
103                 return ERR_CONV;
104             }
105             //Make sure there is no negative time
106             if(intTime < 0)
107             {
108                 cerr << "Please provide a positive time"  << endl;
109                 return ERR_VALUE;
110             }
111
112             //Calculate the speed
113             intSpeed = dblDistance / (intTime / 60.0);
114             cout << "You drove " << intSpeed << " km/h" << endl;
115             //Using the selection operator to determine the output
116             cout << (intSpeed > 60 ? "Too fast!" : "The speed is valid for normal roads.") <<
    endl;
117             break;
118         }
119         //This case handles any invalid characters.
120         default:
121         {
122             cerr << "You did not select either a or b.  Please run the program again.";
123             return ERR_VALUE;
124         }
125     }
126
127
128     return 0;
129 }
130
```