int i;
float aveCity, aveInter, aveHigh, newspeed, ntimepath1, ntimepath2;
float timepath1, timepath2, newtime1, newtime2;
char t, newtype;
float path1[10], path2[10];
char path1type[10], path2type[10];
int length1, length2;

std::cout << "Enter number of steps on path1: "; std::cin >> length1;
for (i = 0; i < length1; i++) {std::cout << "Enter miles on step " << i+1 << ": "; std::cin >> path1[i];
  std::cout << "Enter type of road for step " << i+1 << ": ";
  std::cin >> path1type[i];}

std::cout << "Enter number of steps on path2: "; std::cin >> length2;
for (i = 0; i < length2; i++) {std::cout << "Enter miles on step " << i+1 << ": "; std::cin >> path2[i];
  std::cout << "Enter type of road for step " << i+1 << ": ";
  std::cin >> path2type[i];}

std::cout << "Enter average speed in MPH for city streets: ";
std::cin >> aveCity;
std::cout << "Enter average speed in MPH for Interstates: ";
std::cin >> aveInter;
std::cout << "Enter average speed in MPH for highways: ";
std::cin >> aveHigh;

timepath1 = 0;
for (i = 0; i < length1; i++)
{    
  if (path1type[i] == 'C') {timepath1 = timepath1 + path1[i] / aveCity;
    std::cout << "C " << timepath1;}
  if (path1type[i] == 'I') {timepath1 = timepath1 + path1[i] / aveInter;
    std::cout << "I " << timepath1;}
  if (path1type[i] == 'H') { timepath1 = timepath1 + path1[i] / aveHigh;
    std::cout << "H " << timepath1;}
  }
timepath1 = 60 * timepath1;

timepath2 = 0;
for (i = 0; i < length2; i++)
{    
  if (path2type[i] == 'C') {timepath2 = timepath2 + path2[i] / aveCity;
    std::cout << "C " << timepath2;}
  if (path2type[i] == 'I') {timepath2 = timepath2 + path2[i] / aveInter;
    std::cout << "I " << timepath2;}
  if (path2type[i] == 'H') { timepath2 = timepath2 + path2[i] / aveHigh;
    std::cout << "H " << timepath2;}
  }
}
timepath2 = 60 * timepath2;
if (timepath1 < timepath2) {std::cout << "The first route is faster. It will take " << timepath1 << " minutes";
else { std::cout << "The second route is faster. It will take " << timepath2 << " minutes";
  t = 'n';
  std::cout << "Would you like to try a different speed?: "; std::cin >> t;
if (t == 'Y' || t == 'y') {
    std::cout << "Which speed type?: "; std::cin >> newtype;
    std::cout << "What is new speed?: "; std::cin >> newspeed;
    if (newtype == 'C') { aveCity = newspeed; }
    if (newtype == 'I') { aveInter = newspeed; }
    if (newtype == 'H') { aveHigh = newspeed; }

    ntimepath1 = 0;
    for (i = 0; i < length1; i++)
    {
        if (path1type[i] == 'C') {
            ntimepath1 = ntimepath1 + path1[i] / aveCity;
            std::cout << "C3 " << ntimepath1;
        }
        if (path1type[i] == 'I') {
            ntimepath1 = ntimepath1 + path1[i] / aveInter;
            std::cout << "I3 " << ntimepath1;
        }
        if (path1type[i] == 'H') {
            ntimepath1 = ntimepath1 + path1[i] / aveHigh;
            std::cout << "H3 " << ntimepath1;
        }
    }
    ntimepath1 = 60 * ntimepath1;

    ntimepath2 = 0;
    for (i = 0; i < length2; i++)
    {
        if (path2type[i] == 'C') {
            ntimepath2 = ntimepath2 + path2[i] / aveCity;
            std::cout << "C4 " << ntimepath2;
        }
        if (path2type[i] == 'I') {
            ntimepath2 = ntimepath2 + path2[i] / aveInter;
            std::cout << "I4 " << ntimepath2;
        }
        if (path2type[i] == 'H') {
            ntimepath2 = ntimepath2 + path2[i] / aveHigh;
            std::cout << "H4 " << ntimepath2;
        }
    }
    ntimepath2 = 60 * ntimepath2;
    std::cout << "\n" << ntimepath1 << " " << ntimepath2;
    if (ntimepath1 < ntimepath2)
    {
        std::cout << "\n the first route is faster. It will take "
            << ntimepath1 << " minutes";
    }
    else { std::cout << "\n the second route is faster. It will take "
            << ntimepath2 << " minutes";
    }