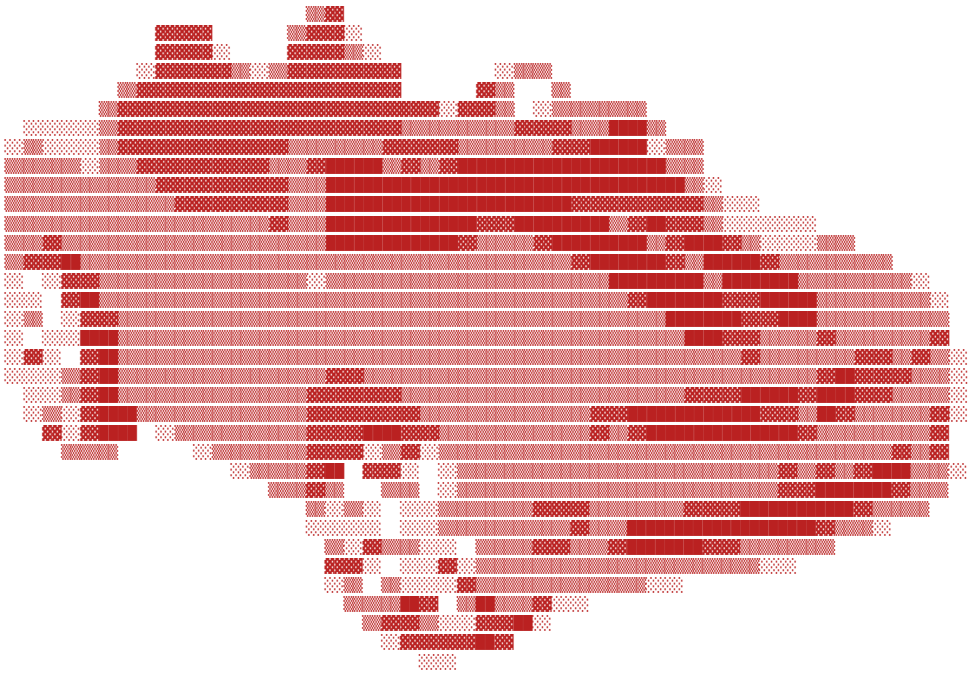
In [ ]:
```
# 1 write a function that takes inputs (total travel time in minutes & total distance traveled)
# and returns the total rate in mph
```

In [3]:

```
def cool_car():
    'A cool looking ascii car'
    print("""
```

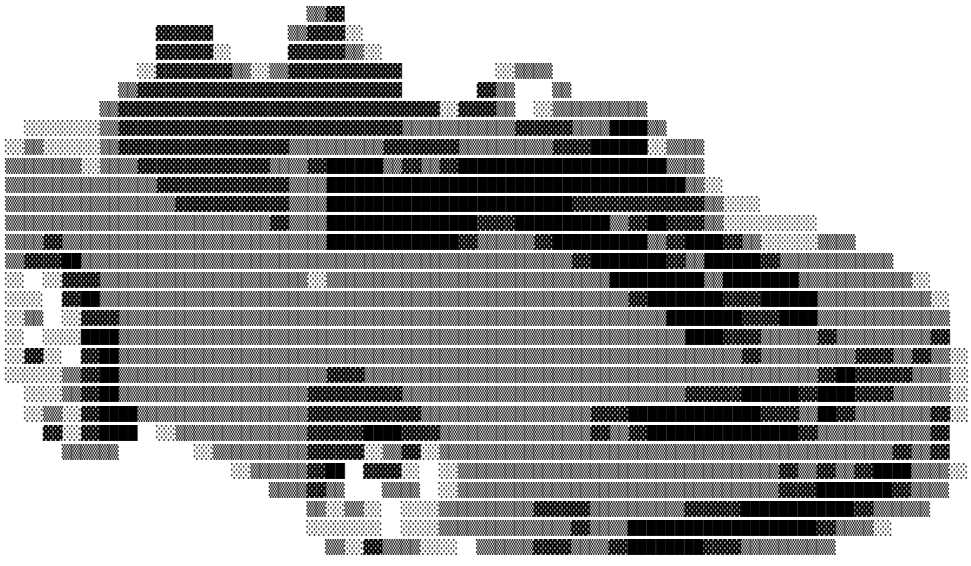


```
""")


def total_rate(minutes,miles):
    'returns the mph after taking in the miles and minutes from'
    #speed = distance/time
    #convert the given strings into an int and float
    minutes = int(minutes)
    miles = float(miles)
    #convert minutes into hours
    hours = minutes/60
    #now we are able to get the miles per hour
    mph = miles/hours
    mph = round(mph, 3)
    return str(mph)

def main():
    'main function with everything put together'
    #take in minutes from user
    travel_time_min = input('Aprox how many minutes have you traveled for: ')
    #take in the miles from the user
    travel_distance = input('How many miles did you travel: ')
    #let the function do the calculations
    mph = total_rate(travel_time_min,travel_distance)
    hours = float(travel_time_min)/60
    #give user results
    print("You traveled for "+travel_time_min+" minutes or "+str(hours)+" hours, and for "+travel_distance+" miles so your mph is "+mph+"/mph")

cool_car()
main()
```



```
Aprox how many minutes have you traveled for: 9999
How many miles did you travel: 10
You traveled for 9999 minutes or 166.65 hours, and for 10 miles so your mph is 0.06/mph
```

In [4]:
```
#2 write a sentinel controlled program (including functions) that takes numbers input from a user and returns the two
 #largest values
```

In [7]:
```
def cool_sentinel():
    "im not sure what a sentinel is but heres something i found"


    print("""
                |||      |||
                | |  __  | |
|-|_____-----/   |_|  |_|   \-----_____|-|
|_|__________{   }|  (^) |{  }__________|_|
 ||           |_| |   ^  | |_|           ||
 |               \|  /\  |/               |
 |                \ |--| /                |
 =                 \ |__| /                =
 +                  \    /                +
                     \  /
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                      \  /
                       \/

-------------------------------------------------
Thank you for visiting https://asciiart.website/
This ASCII pic can be found at
https://asciiart.website/index.php?art=movies/star%20wars
    """)


def find_big_nums(fun_list):
    'this will return the two biggest numbers in a list'
    big_two = []
    for x in range(2):
        r = max(fun_list)
        big_two.append(r)
        fun_list.remove(r)
    return big_two


def main():
    'this will call all the created functions, and give the output'
    fun_list = []
    x = ''
    while x != '000':
        x = input("enter a number and type end when you are done entering numbers enter 000: ")
        fun_list.append(float(x))
    foo = find_big_nums(fun_list)
    print("The two biggest numbers are "+str(foo[0])+" and "+str(foo[1]))



#cool_sentinel()
main()
```

```
enter a number and type end when you are done entering numbers enter 000: 999
enter a number and type end when you are done entering numbers enter 000: 989
enter a number and type end when you are done entering numbers enter 000: 999
enter a number and type end when you are done entering numbers enter 000: 898
enter a number and type end when you are done entering numbers enter 000: 10000
enter a number and type end when you are done entering numbers enter 000: 987
enter a number and type end when you are done entering numbers enter 000: 66
enter a number and type end when you are done entering numbers enter 000: 23
enter a number and type end when you are done entering numbers enter 000: 12
enter a number and type end when you are done entering numbers enter 000: 000
The two biggest numbers are 10000.0 and 999.0
```

In [ ]:
```
#3 python has built-in functions isupper() and islower(), that return a boolean if a character is
# in upper or lower case. Write a similar function called isvowel() that returns a boolean after
# checking to see if a char is a vowel or not
```

In [8]:
```
def isvowel(char):
    'Checks to see if the char is a vowel'
    vowels = ['a','e','i','o','u']
    if len(char) == 1 and char in vowels:
        print(char+" is a vowel")
        return True
    else:
        print(char+" is not a vowel")
        return False

x = 'e'
isvowel(x)
```

```
e is a vowel
```

Out[8]:
```
True
```

In [20]:
```
#4 Create a game similar to hangman, that allows a user to guess which characters are in a word (string).
# The player loses and the game ends once the player has six incorrect guesses
# The player wins and the game ends once the player successfully guesses all letters in the string
# create a word bank of 10 words that randomly select one of those words for the player to guess
# display the word using ***** to identify hidden letters
# add correctly guessed letters as appropriate for example: (*e**o), (*ell*), (*ello), (hello)
# create functions as necessary
# use loops/condiions as necessary
# assume the player must guess one letter at a time
```

In [9]:

```
import random
def generate_word():
    'this function will provide a random word for the game'
    # create a word bank of 10 words that randomly select one of those words for the player to guess
    word_bank = ['panda','bamboo','hungry','bear','forest','china','habitat','cub','herb','herbivorous']
    return random.choice(word_bank)

def guess_letter():
    x = input('Please guess a letter: ')
    return x

def check_letter(x,word):
    #if letter is in the word return True else return false
    if str(x) in word:
        return True
    else:
        return False

def display_tries(r_letters,w_letters,word):
    # add correctly guessed letters as appropriate for example: (*e**o), (*ell*), (*ello), (hello)
    # display the word using ***** to identify hidden letters
    display_list = []
    print('You have incorrectly guessed these letters: '+','.join(map(str, w_letters)))
    for letter in word:
        if letter in r_letters:
            display_list.append(letter)
        else:
            display_list.append('*')
    display_string = ''.join(map(str, display_list))
    print('('+display_string+')')
    return display_string


def main():
    # The player loses and the game ends once the player has six incorrect guesses
    # The player wins and the game ends once the player successfully guesses all letters in the string
    #init the variable to continue or stop game
    GameOver = False
    #init the player health
    life_counter = 0
    #call the function to generate a random word
    word = generate_word()
    #print(word)
    #list of wrong guesses
    w_list = []
    #list of right guesses
    r_list = []
    #init the display string oer guess
    display_string = ''
    #while the game is not over continue the game
    while GameOver == False:
        #if the player is out of lives end the game
        if life_counter == 6:
            print('You lost Bye Try again next time')
            GameOver = True
            #if the player has guessed the word end the game and congratualate them
        elif display_string == word:
            print('Congratulations You WIN !!!!!')
            GameOver = True
            #if the player still has life left let them guess
        elif life_counter < 6:
            #call the guess function
            guessed_letter = guess_letter()
            #check to see if the letter is right or wrong
            letter_check = check_letter(guessed_letter,word)
            #if the letter is wrong
            if letter_check == False:
                #add it to the the wrong list of guesses
                w_list.append(guessed_letter)
                # and deplete there life
                life_counter += 1
                #and display there tries/menu
                display_string = display_tries(r_list,w_list,word)
            #if the letter is right
            elif letter_check == True:
                #add the letter to the correct list of right letters
                r_list.append(guessed_letter)
                #and display the resultant
                display_string = display_tries(r_list,w_list,word)


main()
```

```
Please guess a letter: p
You have incorrectly guessed these letters: p
(******)
Please guess a letter: a
You have incorrectly guessed these letters: p
(*a****)
Please guess a letter: b
You have incorrectly guessed these letters: p
(ba*b**)
Please guess a letter: m
You have incorrectly guessed these letters: p
(bamb**)
Please guess a letter: z
You have incorrectly guessed these letters: p,z
(bamb**)
Please guess a letter: y
You have incorrectly guessed these letters: p,z,y
(bamb**)
Please guess a letter: o
```

```
You have incorrectly guessed these letters: p,z,y
(bamboo)
Congratulations You WIN !!!!!
```

In [ ]: