Problem 1

```
def percentage(amount,total):
    percent = amount * 100 // total
    return str(percent) + "%"
```

Problem 2

```
def taxi_cost(miles):
    if miles > 10:
        return 4*miles
    else:
    return 3 + 2*miles
```

Problem 3

```
def script():
    got_it = False
    while not got_it:
        number = int(input("Enter␣a␣three-digit␣number:␣"))

        if number < 0:
            print("That␣number␣is␣negative.")
        elif number < 10:
            print("That␣number␣has␣only␣one␣digit.")
        elif number < 100:
            print("That␣number␣has␣only␣two␣digits.")
        elif number >= 1000:
            # The instructions don't say excatly what to do here.
            print("That␣number␣has␣too␣many␣digits!")
        else:
            got_it = True

        if not got_it:
            print("Please␣try␣again.")

    # Assumes it is 100 and above, but less than 1000.
    h = number // 100
    t = number // 10 % 10
    o = number % 10
    print("Its␣hundreds␣digit␣is␣"+str(h)+".")
    print("Its␣tens␣digit␣is␣"+str(t)+".")
    print("Its␣ones␣digit␣is␣"+str(o)+".")
```

Problem 4 (a)

```
def squares_of(xs):
    sqrs = []
    i = 0
    while i < len(xs):
        sqrs.append(xs[i]**2)
        i += 1
    return sqrs
```

Problem 4 (b)

```
def square_all_of(xs):
    i = 0
    while i < len(xs):
        xs[i] = xs[i] * xs[i]
        i += 1
```

Problem 5

```
def describe_list(xs):
    if len(xs) == 0:
        return "That␣list␣is␣empty."
    elif len(xs) == 1:
        return "That␣list␣holds␣the␣value␣" + str(xs[0]) + "."
    elif len(xs) == 2:
        s = "That␣list␣holds␣the␣value␣" + str(xs[0])
        s += "␣followed␣by␣" + str(xs[1]) + "."
        return s
    else:
        s = "That␣list␣holds␣the␣sequence␣"
        i = 0
        while i < len(xs) - 1:
            s += str(xs[i]) + ",␣"
            i += 1
        s += "and␣"+str(xs[i])+"."
        return s
```

Problem 6

```
def number_pyramid(height):
    count = 0
    row = 1
    pyramid = ""
    while row <= height:
        pyramid += "␣" * (height-row)
        column = 1
        while column <= row:
            pyramid += str(count) + "␣"
            column += 1
            count = (count + 1) % 10
        if row < height:
            pyramid += "\n"
        row += 1
    print(pyramid)
```