Part 4 Solutions

1.

```
L = [1, 2, 22, 15]
n = int(raw_input("Enter an integer: "))
if n in L:
    L.remove(n)
print L
```

2.

```
list = ['John Smith', 'Michael Anderson', 'Archibald Farnsworth
the Fourth']
list.insert(2, 'Some Name')
print list
```

3.

```
list = ['s', 'h', 'j', 'k', 'd', 'q']
list.sort()
list.reverse()
```

4.

```
list = ['s', 'h', 'j', 'k', 'd', 'q']
new_list = list[1::2]
```

5.

```
list = range(2,24,2)
```

6. It would produce the following output [13, 18, 23, 28, 33, 38]. You should try some more variations of this to learn more about it.

7.

```
list = ['John Smith', 'Michael Anderson', 'ArchibaldFarnsworth
the Fourth']
list[1] = 'Some Name'
```

8.
```
for i in range(1, 11):
    print i**2
```

9.
```
# part A

sum = 0
for i in range(1, 101):
    sum += i
print sum

# part B

n = int(raw_input("Enter a positive integer: "))
sum = 0
for i in range(1, n + 1):
    sum += i
print sum
```

10.
```
n = int(raw_input("Enter a positive integer: "))
factorial = 1
for i in range(1, n + 1):
    factorial *= i
print factorial
```

11. The range function only takes integral increments; 0.1 is not an integral increment.

12.
```
n = int(raw_input("Enter a positive integer: "))
for i in range(1, n+1):
    if n%i == 0:
        print i
```

13.

```
# part A

entry = ''
L = []
while entry != 'end':
    entry = raw_input("Type something: ")
    L.append(entry)

#part B

for entry in L:
    print entry

# part C

for entry in L:
    if entry.isalpha():
        print entry
```

14.

```
for i in range(2, 101):
    divisors = []
    for j in range(1, i+1):
        if i%j == 0:
            divisors.append(j)
    if len(divisors) == 2:
        print i
```

15.

```
n1 = int(raw_input("Enter an integer: "))
n2 = int(raw_input("Enter another integer: "))
divisors1 = []
divisors2 = []
for i in range(1, n1+1):
    if n1%i == 0:
        divisors1.append(i)
for i in range(1, n2+1):
    if n2%i == 0:
        divisors2.append(i)
gcd = 1
for divisor in divisors1:
    if divisor >= gcd and divisor in divisors2:
        gcd = divisor
for divisor in divisors2:
    if divisor >= gcd and divisor in divisors1:
        gcd = divisor
print "The greatest common divisor is", gcd
```

16.

```
def primes(n):
    number = 0
    for i in range(2, n):
        divisors = []
        for j in range(1, i+1):
            if i%j == 0:
                divisors.append(j)
        if len(divisors) == 2:
            number += 1
    return number
```