Iteration Assignment

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1 Iteration Assignment

1.1 Problem 1

Write a program to compute the sum of the squares of the integers beginning with 5 and ending with 9. Use a while loop.

```
[11]: sumsq = 0
integer = 4
while integer <=8:
    integer = integer + 1
    sumsq=sumsq+integer**2
    print (integer, sumsq)
print(sumsq)
```

```
5 25
6 61
7 110
8 174
9 255
255
```

1.2 Problem 2

Write another program to repeat the task of Problem 1 but do it with a for loop using range(10). Use coditional execution within the loop to control which integers are used.

```
[32]: def range_func(n):
    mynum=0
    for n in range(10):
        if n >=5:
            mynum= mynum + n**2
        print (mynum,n)
range_func(2)
```

```
0 0
0 1
0 2
0 3
```

```
0 4
25 5
61 6
110 7
174 8
255 9
```

1.3 Problem 3

Repeat the task using a for loop as in Problem 2, but instead of conditional execution within the loop, do a little research on range() and set the arguments to do what you want.

```python
[24]: def range_func(n,Start,End,Step):
          mynum=0
          for n in range(Start,End,Step):
              if n >=5:
                  mynum= mynum + n**2
              print (mynum,n)

      Start = 0
      End = 10
      Step = 1
      n = 2
      range_func(n,Start,End,Step)
```

```
0 0
0 1
0 2
0 3
0 4
25 5
61 6
110 7
174 8
255 9
```

1.4 Problem 4

Modify the code in Problem 3 to skip the integer 7 using continue.

```python
[21]: sum = 0
      for x in range(5, 10):
          if x == 7:
              continue
          sum = sum + x**2
      print(sum)
```

```
206
```

1.5 Problem 5

Modify the code from Problem 3 in two ways:

1. Set the end argument of range to 100.
2. Use break to avoid going beyond 9.

```
[20]: sum = 0
      for x in range(5, 100):
          sum = sum + x**2
          if x == 9:
              break
      print(sum)
```

255

```
[0]:
```