

Section A: Written problems

1. Answer: $1/6$
2. Answer: $1/15$
3. Answer: a). 350 teams
b). 100 teams

Section B: Programming Problems

1.

```
def sumMutiples(number):  
    multiples = [3, 5]  
    sum = 0  
  
    for i in range(0, number):  
        if i % 3 == 0 or i % 5 == 0:  
            sum += i  
  
    print sum  
sumMutiples(1000)
```

2.

```
def fib(num):  
    i,j = 1,1  
    for n in range(num-1):  
        i,j = j,i+j  
    print i  
fib(8)
```

3.

```
def f(x):  
    return 2 * (x ** 3)
```

```
def deriv(f, x):  
    h = 1./1000000.
```

```

diff = f(x+h) - f(x)
derivative = diff / h
print derivative
f = f(x)

```

```

deriv(f, 5)

```

4.

```

result = [[0,0],
          [0,0]]

```

```

def matrixMult(x, y):
    for i in range(len(x)):
        for j in range(len(y[0])):
            for k in range(len(y)):
                result[i][j] += x[i][k] * y[k][j]

```

```

    for r in result:
        print(r)

```

```

matrixMult([[1,2,3],[4,5,6]], [[7,8],[9,10],[11,12]])

```

5.

```

def levenshteinDistance(s1, s2):
    if s1 == "":
        return len(s2)
    if s2 == "":
        return len(s1)
    if s1[-1] == s2[-1]:
        x = 0
    else:
        x = 1

```

```
result = min([levenshteinDistance(s1[:-1], s2)+1,  
              levenshteinDistance(s1, s2[:-1])+1,  
              levenshteinDistance(s1[:-1], s2[:-1]) + x])  
return result
```