

Solutions and commentary for exam 2024-08-22 in DA7066

Part A: multiple choice

1. A
2. E
3. B, C
4. A, B, C, D, E
5. D
6. C
7. D
8. A

Part B: coding questions

9A. Example solution:

```
def first_n_prod(n, l):
    if len(l) < n:
        return 0
    else:
        p = l[0]
        for i in l[1:n]:
            p *= i
        return p
```

B. Example solution:

```
def first_n_prod(n, l):
    for i in l:
        if type(i) != int:
            print('Illegal input')
            return 0
    if len(l) < n:
        return 0
    else:
        p = l[0]
        for i in l[1:n]:
            p *= i
        return p
```

10. We need to write `for i in range(len(line)):` for Python to accept the code, not `for i in len(range(line)):`. The second error is a logical error, it should be `if l[i:i+5] == '#TODO':` instead of `if l[i] == '#TODO':`.

11. `def collatz(n):`
`nrs = [n]`
`while n != 1:`
 `if n % 2 == 0:`
 `n = n//2`
 `else:`
 `n = 3*n + 1`
`nrs.append(n)`
`return nrs`

12. Example solution

```
def flip_dict(d):
    d_new = {}
    for k,v in d.items():
        d_new[v] = k
    return d_new
```

13. Example solution

```
def add_matrices(A, B):  
    C = []  
    for i in range(len(A)):  
        C.append([])  
        for j in range(len(A[0])):  
            C[i].append(A[i][j]+B[i][j])  
    return C
```