

Solutions and commentary for exam 2024-08-22 in DA2005

Part A: multiple choice

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

Part B: coding questions

9A. Example solution:

```
def my_special_prod(l):
    p = 1
    for i in l:
        if i % 2 == 0:
            p *= i
    if p == 1:
        return 0
    return p
```

B. Example solution:

```
def my_special_prod(l):
    p = 0
    idx = -1
    for i in l:
        idx += 1
        if type(i) != int:
            print('invalid datatype at list at index:', idx)
            continue
        if i % 2 == 0:
            p *= i
    if p == 1:
        return 0
    return p
```

10. `def fibonacci(n):`
nrs = []
if n == 1:
 return [0]
elif n == 2:
 return [0, 1]
else:
 nrs = [0,1]
 for i in range(2,n):
 nrs.append(nrs[-1] + nrs[-2])
 return nrs

11. Example solution

```
def remove_duplicates(l):
    l2 = []
    for item in l:
        if item not in l2:
            l2.append(item)
    return l2
```

12. Example solution

```
def common_keys(d1, d2):  
    l = []  
    for k, v in d1.items():  
        if k in d2:  
            if v == d2[k]:  
                l.append(k)  
    return l
```

13. Example solution

```
def matrix_transpose(m):  
    mt = []  
    cols = len(m) # get number of columns in transposed matrix  
    rows = len(m[0]) # get number of rows in transposed matrix  
  
    for i in range(rows): # initialize transposed matrix  
        mt.append([0]*cols)  
  
    for i in range(len(m)):  
        for j in range(len(m[0])):  
            mt[j][i] = m[i][j]  
    return mt
```