

# Partial exam

## - data structures -

### Exercise 1

5 min

3p a) You are given the following structure, representing a node in a Singly Linked List:

```
1 typedef struct node {  
2     int key;  
3     int parity;  
4     struct node *next;  
5 } Node;
```

You are also given a function that creates a new node in the list:

```
1 Node *createSLLNode (int key) {  
2     Node * p = (Node *)malloc (sizeof (Node));  
3     if (p) {  
4         p->key = key;  
5         p->parity = 0;  
6         p->next = NULL;  
7     }  
8     return p;  
9 }
```

Write a function that marks every even node in the list by setting the parity property to 1 and has the following signature, where root is the first node in the list:

```
void markEven(Node* root);
```

Note: Parity does not depend on the value of the key property. It depends on the position of the node in the list.

1p b) What is the name of the memory area in which variables are stored when initialized with malloc?