

# Strukture te Dhenash

## Seminar 9

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# Listat lineare

- Quhet nje varg objektesh te te njejtit tip.
- Ne kete varg dallohet koka e listes (nje element) dhe pjesa tjeter e vargut (mbetja e listes) qe eshte nga ana e vet nje liste.
- Lista mund te jete edhe nje list boshe (nuk ka asnje element)



# Listat lineare

- Listat mund te konsiderohen si varg objektesh te te njejtit tip.
- Objektet quhen elemente te listes.
- Nqs elementet e listes jane regjistrime te zakonshme ath lista eshte e thjeshte.
- Nqs regjistrimet jane lista ath quhen lista te pergjithesuara (te varura).

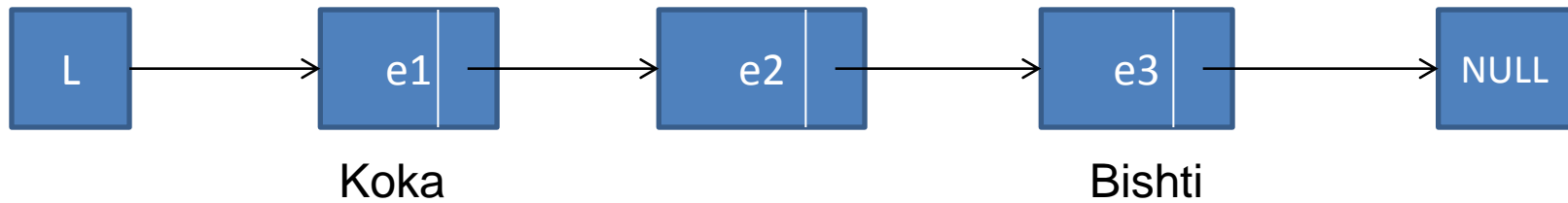
# Listat lineare

- Jane struktura dinamike
- Perdorin vairable dinamike
- \*p – tregon adresen e nje objekti ne kujtese
- NULL – nuk shenjon me mbi ndonje objekt.

# Lista nje drejtimore

- Quhet nje drejtimore kur eshte paraqitur funksioni perkates ku per cdo element  $e_1$  te listes tregon pasardhesin e tij  $e_i + 1$
- Pasardhesi i elementet te fundit eshte NULL
- Lidhja e elementeve te listes behet me ane te shenjuesve
- Referimi behet duke shenjuar mbi koken e saj.
- Cdo element permban dy fusha
  - Informacionin qe permban elementi
  - Adresen e elementit pasardhes

# Lista nje drejtimore



# Deklarimi i listes

```
typedef struct element {  
    int vlere;  
    struct element *pas;  
} liste;
```

- Tipi i te dhenes qe mban element (vlere) eshte INT kurse elementi adresa e elementit pasardhes eshte PAS i tipit liste.

```
struct node {  
int x;  
node *next;  
};  
int main() {  
node *root;           // This will be the unchanging first  
node root = new node; // Now root points to a node struct  
root->next = 0;        // The node root points to has its next pointer  
                       // set equal to a null pointer  
root->x = 5;           // By using the -> operator, you can modify the node  
                       // a pointer (root in this case) points to.  
}
```



# Pershkimi i listes

```
struct node {  
    int x;  
    node *next;  
};  
int main() {  
    node *root;           // This won't change, or we would lose the list in memory  
    node *conductor;     // This will point to each node as it traverses the list  
    root = new node;     // Sets it to actually point to something  
    root->next = 0;      // Otherwise it would not work well  
    root->x = 12;  
    conductor = root;    // The conductor points to the first node  
    if ( conductor != 0 ) {  
        while ( conductor->next != 0 )  
            conductor = conductor->next; }  
        conductor->next = new node; // Creates a node at the end of the list  
        conductor = conductor->next; // Points to that node  
        conductor->next = 0;        // Prevents it from going any further  
    }
```

# Afishimi i elementeve

```
conductor = root;
if ( conductor != 0 ) {
while ( conductor->next != 0 ) {
    cout<< conductor->x;
    conductor = conductor->next;
}
cout<< conductor->x;
}
```

# Afishimi i elementeve

```
conductor = root;  
while ( conductor != NULL ) {  
    cout<< conductor->x;  
    conductor = conductor->next;  
}
```

# Ushtrimi 1

- Krijoni nje liste qe mban elemente te tipit integer.

# Ushtrimi 2

- Ndertoni funksionin qe llogarit gjatesine e nje liste

# Ushtrimi 3

- Ndertoni funksionin qe kopjon nje liste nje drejtimore

# Ushtrimi 4

- Ndertoni funksionin qe krahason nese 2 lista jene te njejta

# Ushtrimi 5

- Ndertoni funksionin qe fshin nje liste nje drejtimore.



# REFERENCA

- <http://www.youtube.com/watch?v=NobHIGUjV3g>
- <http://www.youtube.com/watch?v=vcQIFT7950>
- <http://www.youtube.com/watch?v=cAZ8CyDY56s>

