

```
//Q2
//A
```

```
void print_digets(int a , int b) {
    int len_b = 1;
    int tmp=10;
    while(b/tmp) {
        len_b++;
        tmp*=10;
    }
    tmp=1;
    for(int i=0;i<len_b-a;i++) tmp*=10;

    printf("%d" , b/tmp);
}
```

```
//B
```

```
int last_location(char* str , char ch) {
    int i = 0, ret = -1;
    while(*str) {
        if(*str == ch)
            ret = i;

        i++;
        str++;
    }
    return ret;
}
```

```
//C
```

```
int count_space(char* str) {
    int count = 0;
    while(*str) {
        if(*str == ' ') count ++;
        str++;
    }
    return count;
}
```

```
char* add_word(char** pstr) {
    int wlen = 0;
    char* ref = *pstr;
    while(*ref != ' ' && *ref != 0){
        wlen++;
        ref++;
    }

    char* word = (char*)malloc(sizeof(char)*wlen + 1);
    if (!word) return null;

    for(int i=0 ; i<wlen ; i++) {
        word[i] = ref[i];
    }
    //move the original pointer wlen + 1 chars forward
    *pstr=*pstr + wlen + 1;

    return word;
}
```

```
void cleanup(char** arr, int size){
    for(int i = 0; i<size;i++) {
        if(arr[i] != null) {
            free(arr[i]);
            continue;
        }
    }
}
```

```

    }
    break;
}
free(arr);
return;
}

char** word_break(char* str) {
    int spaces = count_space(str);
    char** arr = (char**)malloc(sizeof(char*) * spaces + 1);
    if(!arr) return null;

    int i = 0;
    while(*str) {
        arr[i] = add_word(&str);
        if(!arr[i]) cleanup(arr , spaces);
        i++;
    }

    return arr;
}

```

//Q3

```

typedef struct _node {
    int m[2][3];
    struct _node* next;
} Node, *pNode;

pNode creat(int mat[2][3]) {
    pNode n = (pNode)malloc(sizeof(Node));
    if(!n) return null;
    n->next = null;
    for(int i = 0 ; i<6 ; i++) n->m[i] = mat[i];

    return n;
}

void add(Node** head, pNode node) {
    Node** p = head;
    while(*p){
        p = &((*p)->next);
    }
    *p = node;
}

void print_node(pNode n){
    printf("%d %d %d \n", n->m[0],n->m[1],n->m[2]);
    printf("%d %d %d \n\n", n->m[3],n->m[4],n->m[5]);
}

void print(pNode head) {
    while(head){
        print_node(*head);
        head = head->next;
    }
    return;
}

void delete(Node** head) {
    Node** p = head;
    *head = null;
}

```

```
while(*p){
    Node* tmp = *p;
    p = &((*p)->next);
    free(tmp);
}
return;
}

int main() {
    int m1[2][3] = {{1,2,3},{4,5,6}};
    int m2[2][3] = {0};
    int m3[2][3] = {1};

    Node* head = null;
    add(&head,creat(m1));
    add(&head,creat(m2));
    add(&head,creat(m3));

    print(head);
    delete(&head);

}
```