

# Double pointers in dynamic data structures

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```

struct listNode
{
    int data;
    struct listNode *nextPtr;
};
typedef struct listNode ListNode;
typedef ListNode * ListNodePtr;

int main()
{
    ...
    addNodeAtFront(&startPtr, 5);
    ...
}

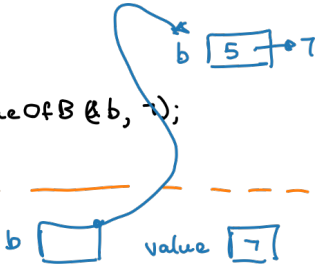
void addNodeAtFront(ListNode **startPtrPtr, int data)
{
    newPtr = malloc(sizeof(ListNode));
    ...
    newPtr->data = data;
    newPtr->nextPtr = *startPtrPtr;
    *startPtrPtr = newPtr;
    ...
}

```

```

int main()
{
    int b = 5;
    changeValueOfB (&b, 7);
}

```



```

void changeValueOfB (int *b,
                    int value)
{
    *b = value;
}

```

```

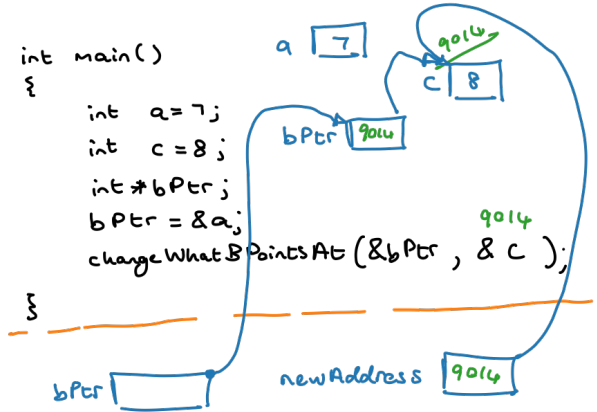
int main()
{

```

```

    int a = 7;
    int c = 8;
    int *bPtr;
    bPtr = &a;
    changeWhatBPointsAt (&bPtr, &c);
}

```



```

void changeWhatBPointsAt (int **bPtr,
                        int *newAddress)
{
    *bPtr = newAddress;
}

```