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1. Write a c program to simulate segmentation

take as input

1) segment number

2) base address

3) segment limit

Code:

**#include <stdio.h>**

**#include <stdlib.h>**

**struct list**

**{**

**int seg;**

**int b;**

**int l;**

**struct list \*next;**

**} \* p;**

**void insert(struct list \*q, int b, int l, int seg)**

**{**

**if (p == NULL)**

**{**

**p = malloc(sizeof(struct list));**

**p->l = l;**

**p->b = b;**

**p->seg = seg;**

**p->next = NULL;**

**}**

**else**

**{**

**while (q->next != NULL)**

**{**

**q = q->next;**

**printf("yes");**

**}**

**q->next = malloc(sizeof(struct list));**

**q->next->l = l;**

**q->next->b = b;**

**q->next->seg = seg;**

**q->next->next = NULL;**

**}**

**}**

**int find(struct list \*q, int seg)**

**{**

**while (q->seg != seg)**

**q = q->next;**

**return q->l;**

**}**

**int search(struct list \*q, int seg)**

**{**

**while (q->seg != seg)**

**q = q->next;**

**return q->b;**

**}**

**void main()**

**{**

**p = NULL;**

**int seg, offset, l, b, c, s, physical;**

**printf("Enter Segment Table (-1 to exit)\n");**

**do**

**{**

**printf("Enter Segment Number ");**

**scanf("%d", &seg);**

**if (seg != -1)**

**{**

**printf("Enter Base Value ");**

**scanf("%d", &b);**

**printf("Enter Value for Limit ");**

**scanf("%d", &l);**

**insert(p, b, l, seg);**

**}**

**} while (seg != -1);**

**printf("Enter offset ");**

**scanf("%d", &offset);**

**printf("Enter bsegmentation number ");**

**scanf("%d", &seg);**

**c = find(p, seg);**

**s = search(p, seg);**

**if (offset < c)**

**{**

**physical = s + offset;**

**printf("Address in physical memory %d\n", physical);**

**}**

**else**

**{**

**printf("Error");**

**}**

**}**

Output:

