INSERT SPECIFIC

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   /****    Program to Insert at Specific Node in a Linked List    ****/

#include <stdio.h>

void insert_last();
void insert_specific();
void display();

struct node
{
     int info;
     struct node *link;
} *start=NULL;

int item;

main()
{
      int ch;

      do
      {
          printf("\n\n\n1. Insert Last\n2. Insert Specific\n3. Display\n4.
                                                              Exit\n");
          printf("\nEnter your choice: ");
          scanf("%d", &ch);

          switch(ch)
          {
               case 1:
                    insert_last();
                    break;

               case 2:
                    insert_specific();
                    break;

               case 3:
                    display();
                    break;
```

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                case 4:
                     exit(0);

                default:
                     printf("\n\nInvalid choice. Please try again.\n");
           }
       } while (1);
}

void insert_last()
{
     struct node *ptr;

     printf("\n\nEnter item: ");
     scanf("%d", &item);

     if(start == NULL)
     {
          start = (struct node *)malloc(sizeof(struct node));
          start->info = item;
          start->link = NULL;
     }
     else
     {
          ptr = start;

          while (ptr->link != NULL)
                ptr = ptr->link;

          ptr->link = (struct node *)malloc(sizeof(struct node));
          ptr = ptr->link;
          ptr->info = item;
          ptr->link = NULL;
     }

     printf("\nItem inserted: %d\n", item);
}
```

```
void insert_specific()
{
     int n;
     struct node *nw, *ptr;

     if (start == NULL)
         printf("\n\nLinked list is empty. It must have at least one
                                                          node.\n");
     else
     {
         printf("\n\nEnter INFO after which new node is to be inserted: ");
         scanf("%d", &n);
         printf("\n\nEnter ITEM: ");
         scanf("%d", &item);

         ptr = start;
         nw = start;

         while (ptr != NULL)
         {
               if (ptr->info == n)
               {
                     nw = (struct node *)malloc(sizeof(struct node));
                     nw->info = item;
                     nw->link = ptr->link;
                     ptr->link = nw;
                     printf("\n\nItem inserted: %d", item);
                     return;
               }
               else
                     ptr = ptr->link;
      }
     }
}

void display()
{
     struct node *ptr = start;
     int i=1;

     if (ptr == NULL)
          printf("\nLinklist is empty.\n");
```

```
      else
      {
            Printf("\nSr. No.\t\tAddress\t\tInfo\t\tLink\n");
            while(ptr != NULL)
            {
                  printf("\n%d.\t\t%d\t\t%d\t\t%d\n", i, ptr, ptr->info,
                                                            ptr->link);
                  ptr = ptr->link;
                  i++;
            }
      }
}
```