Insertion in singly linked list at beginning

Inserting a new element into a singly linked list at beginning is quite simple. We just need to make a few adjustments in the node links. There are the following steps which need to be followed in order to inser a new node in the list at beginning.

- Allocate the space for the new node and store data into the data part of the node. This will be done by the following statements.

```
ptr = (struct node *) malloc(sizeof(struct node *));
        ptr → data = item
```

- Make the link part of the new node pointing to the existing first node of the list. This will be done by using the following statement.

```
ptr->next = head;
```

- At the last, we need to make the new node as the first node of the list this will be done by using the following statement.

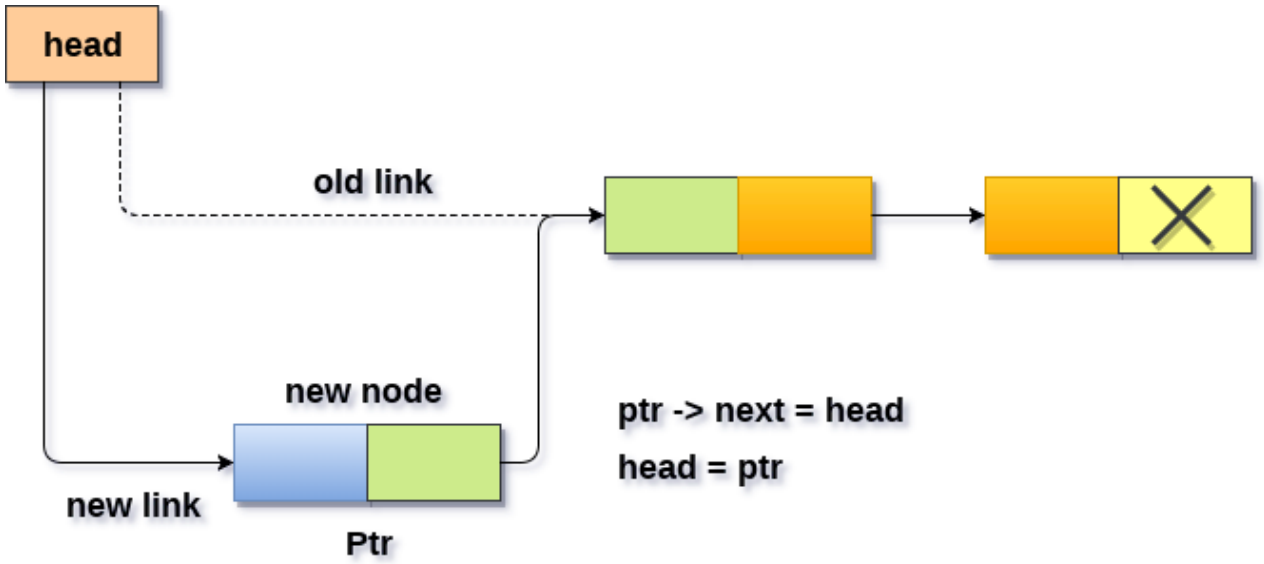
```
head = ptr;
```

Algorithm

- **Step 1:** IF PTR = NULL

  Write OVERFLOW
  Go to Step 7
  [END OF IF]

- **Step 2:** SET NEW_NODE = PTR
- **Step 3:** SET PTR = PTR → NEXT
- **Step 4:** SET NEW_NODE → DATA = VAL
- **Step 5:** SET NEW_NODE → NEXT = HEAD
- **Step 6:** SET HEAD = NEW_NODE
- **Step 7:** EXIT



C Function

```
#include<stdio.h>
#include<stdlib.h>
```

```
void beginsert(int);
struct node
{
   int data;
   struct node *next;
};
struct node *head;
void main ()
{
   int choice,item;
   do
   {
      printf("\nEnter the item which you want to insert?\n");
      scanf("%d",&item);
      beginsert(item);
      printf("\nPress 0 to insert more ?\n");
      scanf("%d",&choice);
   }while(choice == 0);
}
void beginsert(int item)
   {
      struct node *ptr = (struct node *)malloc(sizeof(struct node *));
      if(ptr == NULL)
      {
         printf("\nOVERFLOW\n");
      }
      else
      {
         ptr->data = item;
```

```
        ptr->next = head;
        head = ptr;
        printf("\nNode inserted\n");
    }

}
```

Output


```
Enter the item which you want to insert?
12

Node inserted

Press 0 to insert more ?
0

Enter the item which you want to insert?
23
```

```
Node inserted

Press 0 to insert more ?
2
```

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