PRANAV JAGADEESH
1BM18CS071

Program 1 Write-up

```
Node
{ int data
  Node* npx
}

Node* XOR( Node *a, Node *b)
{
  return (Node *) ((uintptr_t)(a) ^ (uintptr_t) (b))
}

Insert ( Node **head_ref, int data)
{ Node * new_node ← new Node ()
  new-node → data ← data
  new_node → npx ← *head_ref
  if (*head_ref != NULL)
  { (*head_ref) → npx ← XOR( new_node, (*head_ref) → npx)
  }
  *head_ref ← new_node
}

printlist( Node *head)
{ Node *curr ← head
  Node * prev ← NULL;
  Node * next
  while ( curr != NULL)
  { next ← XOR ( prev, curr → npx)
    prev ← curr
    curr ← next
  }
}

main ( )
{ Node *head ← NULL
  insert (&head, 10)
    printList (head)
    return 0
}
```

```
Node * insertEnd (Node * head, int val)
{   Node * prev = Null ;
 Node* curr = head ;
    Node * next = XOR (prev, curr -> npx ) ;
   while ( next )
   {   prev = curr ;
       curr = next ;
       next = XOR ( prev, curr -> npx );
   }
   Node * node = new Node ( val ) ;
   curr -> npx = XOR ( curr -> npx ; node ) ;
    node -> npx = XOR ( curr , Null ) ;
        return head ;
}
```