

Q1. While traversing a single-circular linked list, which condition establishes that the traversing element/variable has reached the first element?

Solution :

First, let's write a basic circular linked list creation program –

```
#include <iostream>  
using namespace std;  
class Node  
{  
    public:  
    int data;  
    Node*next;  
    Node(int data)  
    {  
        this->data=data;  
        next=NULL;  
    }  
};  
void append(Node*&head,int data)  
{  
    Node*t=head;  
    Node*new_node=new Node(data);  
    if(t==NULL){head=new_node;new_node->next=head;return;}  
    while(t->next!=head){t=t->next;}  
    t->next=new_node;  
    new_node->next=head;  
}  
void printer(Node*&head)  
{  
    Node*temp=head;  
    do{cout<<temp->data<<"->";temp=temp->next;}
```

```

    while(temp!=head);
}
int main()
{
    Node*head=NULL;
    append(head,1);
    append(head,2);
    append(head,3);
    printer(head);
}

```

Here, while(t->next!=head){t=t->next;} establishes that the traversing element/variable has reached the first element.

Q2. What are the practical applications of a circular linked list? (Try to find applications in your respective fields)

Solution :

- A media playlist that repeats endlessly where the “tail” song node would point to the first song in the Circular linked list
- Circular linked list is also used in computer networking for token scheduling.
- Circular Linked Lists is used to manage the computing resources of the computer.
- For making multiplayer game. All the Players are kept in a Circular Linked List and the pointer keeps on moving forward as a player's chance end
- Data structures such as stacks and queues are implemented with the help of the circular linked lists.