5.WAP to Implement Singly Linked List with following operations

a) Create a linked list.

b) Insertion of a node at first position, at any position and

at end of list.

Display the contents of the linked list.

```c
#include <stdio.h>

#include <stdlib.h>

struct node

{

    int data;

    struct node *next;

};

void main()

{

    struct node *head=NULL;

    insertatbeg(&head,2);

    insertatbeg(&head,1);

    insertatend(&head,3);

    insertatend(&head,5);

    insertatpos(&head,4,4);

    printlist(head);

}

void insertatbeg(struct node** head_ref,int new_data)

{

    struct node* new_node=(struct node*)malloc(sizeof(struct node));
```

```c
    new_node->data=new_data;

    new_node->next=*head_ref;

    *head_ref=new_node;

}
void insertatend(struct node** head_ref,int new_data)

{

    struct node* new_node=(struct node*)malloc(sizeof(struct node));

    struct node* last=*head_ref;

    new_node->data=new_data;

    new_node->next=NULL;

    if(*head_ref==NULL)

    {

        new_node=*head_ref;

    }

    while(last->next!=NULL)

    {

        last=last->next;

    }

    last->next=new_node;

    return;

}
void insertatpos(struct node** head,int new_data,int pos)

{

    if(pos<=0)

    {

        printf("Invalid position");
```

```c
      return;

   }

   if(pos==1 || *head==NULL)

   {

      insertatbeg(head,new_data);

      return;

   }

   struct node* new_node=(struct node*)malloc(sizeof(struct node));

   struct node *temp=*head;

   new_node->data=new_data;

   int count=1;

   while(count<pos-1 && temp->next!=NULL)

   {

      temp=temp->next;

      count++;

   }

   new_node->next=temp->next;

   temp->next=new_node;

}

void printlist(struct node* node)

{

   struct node *temp=node;

   while(temp!=NULL)

   {

      printf("%d\n",temp->data);

      temp=temp->next;
```
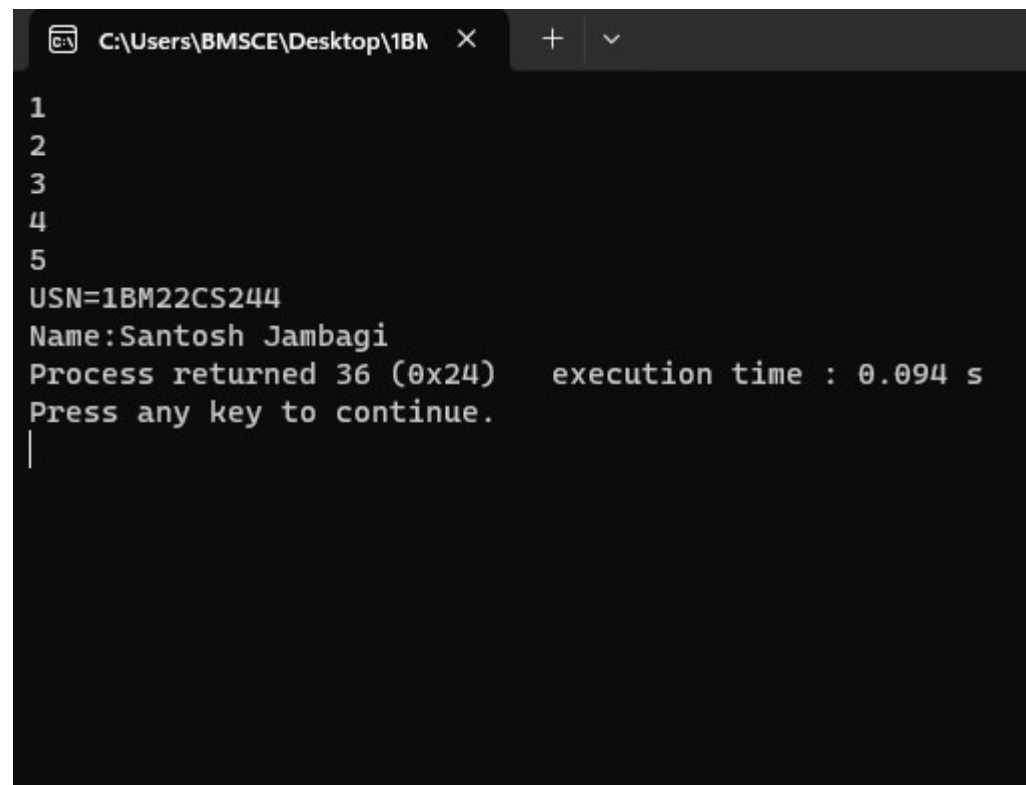
```
    }

}
```

Output:


```
1
2
3
4
5
USN=1BM22CS244
Name:Santosh Jambagi
Process returned 36 (0x24)   execution time : 0.094 s
Press any key to continue.
```