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/*****Stack Implemetation*****/
#define MAXSIZE 10
int stack[MAXSIZE];
int top=-1;
int isFull()
{
    if (top==MAXSIZE)
        return(1);
    else
        return(0);
}
int isEmpty()
{
    if (top==-1)
        return(1);
    else
        return(0);
}
void push(int data)
{
    if (!isFull())
        stack[++top]=data;
    else
        printf("Stack is Full\n");
}
void display()
{
    int i;
    if (!isEmpty())
    {
        printf("Stack Items\n");
        for(i=0;i<=top;++i)
            printf("%d\n",stack[i]);
    }
    else
        printf("Stack is empty\n");
}
void pop()
{
    if (!isEmpty())
    {
        printf("Poped item is %d\n", stack[top]);
        --top;
    }
    else
        printf("Stack is empty\n");
}

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}
void peek()
{
    if(!isEmpty())
        printf("Top element is %d",stack[top]);
    else
        printf("Stack is empty\n");
}
void main()
{
    int opt,data;
    clrscr();
    while (1)
    {
        printf("1.Push\n2.Pop\n3.Peek\n4.Display\n5.Exit\n");
        printf("Enter your option : ");
        scanf("%d",&opt);
        switch(opt)
        {
            case 1:
                printf("Enter Data item to be added : ");
                scanf("%d",&data);
                push(data);
                break;
            case 2:
                pop();
                break;
            case 3:
                peek();
                break;
            case 4:
                display();
                break;
            case 5:
                exit();
            default:
                printf("Invalid option\n");
        }
    }
}

```

/******Queue Implementation*****/

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#define MAXSIZE 10
int queue[MAXSIZE];
int front=-1,rear=-1;

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int isFull()
{
    if (rear==MAXSIZE-1)
        return(1);
    else
        return(0);
}
int isEmpty()
{
    if (front==-1 || front>rear)
        return(1);
    else
        return(0);
}
void enqueue(int data)
{
    if (!isFull())
    {
        queue[++rear]=data;
        if (front==-1)
            front=0;
    }
    else
        printf("Queue is Full\n");
}
void display()
{
    int i;
    if (!isEmpty())
    {
        printf("Queue Elements\n");
        for(i=front;i<=rear;++i)
            printf("%d\n",queue[i]);
    }
    else
        printf("Queue is empty\n");
}
void dequeue()
{
    if (!isEmpty())
    {
        printf("Deleted item is %d\n",queue[front]);
        ++front;
    }
    else
        printf("Queue is empty\n");
}

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}
void peek()
{
    if(!isEmpty())
        printf("Front element is %d\n",queue[front]);
    else
        printf("Queue is empty\n");
}
void main()
{
    int opt,data;
    clrscr();
    while (1)
    {
        printf("1.Enqueue\n2.Dequeue\n3.Peek\n4.Display\n5.Exit\n");
        printf("Enter your option : ");
        scanf("%d",&opt);
        switch(opt)
        {
            case 1:
                printf("Enter Data item to be added : ");
                scanf("%d",&data);
                enqueue(data);
                break;
            case 2:
                dequeue();
                break;
            case 3:
                peek();
                break;
            case 4:
                display();
                break;
            case 5:
                exit();
            default:
                printf("Invalid option\n");
        }
    }
}

```