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Program 1: Write a Program to implement following operations in Array:

A. Insertion of an element

B. Traversing the list

C. Deletion of an element

Code:

```
#include<stdio.h>
int main()
{
   int size,i,arr[5];
   printf("Select the size of array:");
   scanf("%d",&size);
   for(i=0;i<size;i++)
   {
      scanf("%d",&arr[i]);
   }
   printf("The elements of array are\n");
   for(i=0;i<size;i++)
   {
      printf("[%d]\n",arr[i]);
   }
   int choice;
   do{
      printf("Choose operation to perform\n Press 1. for insertion\n Press 2. for traversing\n Press 3. for deletion\n Press 4. for no operation\n");
      scanf("%d",&choice);
      switch (choice)
      {case 1:
      printf("Select the position for the element to be inserted\n");
      for(i=0;i<size;i++)
      {
```

```
   printf("[%d]\n",arr[i]);
}
int choice_1,element;
scanf("%d",&choice_1);
printf("Enter the element to be inserted:");
scanf("%d",&element);
size++;
for(int i=size-1;i>=choice_1;i--)
{
     arr[i]=arr[i-1];
     }
     arr[choice_1]=element;
for(int i=0;i<size;i++)
     printf("[%d]\n",arr[i]);
     break;
case 2:
printf("The array is\n");
for(i=0;i<size;i++)
{
   printf("[%d]\n", arr[i]);
}
break;
case 3:
{
   int choice_3;

printf("Array is:\n");
for(i=0;i<size;i++)
{
   printf("[%d]\n", arr[i]);
}
```

```
        printf("Enter the element to be deleted:");
        scanf("%d",&choice_3);
        if(choice_3 < 0 || choice_3 > size)
        {
           printf("Invalid position! Please enter position between 1 to %d", size);
        }
        else
        {
           for(i=choice_3-1; i<size-1; i++)
           {
              arr[i] = arr[i + 1];
           }
           size--;
           printf("\nElements of array after delete are:\n ");
           for(i=0; i<size; i++)
           {
              printf("[%d]\n", arr[i]);
           }
        }
        break;
        }
        defaut:
        printf("No operation is performed");
        break;
        }
    }
    while(choice!=4);
    return 0;
}
```

Output:

```
Select the size of array:4
1
2
3
4
The elements of array are
[1]
[2]
[3]
[4]
Choose operation to perform
 Press 1. for insertion
 Press 2. for traversing
 Press 3. for deletion
 Press 4. for no operation
1
Select the position for the element to be inserted
[1]
[2]
[3]
[4]
4
Enter the element to be inserted:5
[1]
[2]
[3]
[4]
[5]
Choose operation to perform
 Press 1. for insertion
 Press 2. for traversing
 Press 3. for deletion
 Press 4. for no operation
2
The array is
[1]
[2]
[3]
[4]
[5]
Choose operation to perform
 Press 1. for insertion
 Press 2. for traversing
 Press 3. for deletion
 Press 4. for no operation
3
Array is:
[1]
[2]
[3]
[4]
[5]
Enter the element to be deleted:5

Elements of array after delete are:
 [1]
[2]
[3]
[4]
Choose operation to perform
 Press 1. for insertion
 Press 2. for traversing
 Press 3. for deletion
 Press 4. for no operation
```