

Question 1

```
#include <stdio.h>
int insert()
{
    int array[100] = {0};
    int size = 10;
    for(int i = 0; i < 10; i++)
    {
        array[i] = i+1;
    }
    for(int i = 0; i < size; i++)
    {
        printf("%d ", array[i]);
    }
    printf("\n");
    int x;
    printf("Enter the number you want to add: ");
    scanf("%d", &x);
    int y;
    printf("Enter the position you want to add: ");
    scanf("%d", &y);
    y = y + 1;
    size++;
    for(int i = size-1; i >= y; i--)
    {
        array[i] = array[i-1];
    }
    array[y-1] = x;
    for(int i = 0; i < size; i++)
    {
        printf("%d ", array[i] );
    }
    printf("\n");
}
int delete()
{
    printf("\n\nNow For Deletion of element..\n");
    int arr[100];
    int posi;
    int v;
    int size;
    printf("\nEnter the size of array: ");
    scanf("%d", &size);
    printf("Enter %d elements: \n",size);
    for(v = 0; v < size; v++)
    {
        scanf("%d", &arr[v]);
    }
    printf("Enter the location you want to delete from: \n");
    scanf("%d", &posi);
    if(posi >= size+1)
    {
        printf("\n Not possible cause the position you added is more than the size of array. \n");
    }
}
```

```

    }
else
{
    for(v = posi-1; v < size-1; v++)
    {
        arr[v]= arr[v+1];
    }
    printf("Final array after removal is: \n");
    for(v = 0; v < size-1; v++)
    {
        printf("%d ", arr[v]);
    }
}
}
int operation()
{
    printf("\n\n\nNow For sum of even and odd numbers from array..\n");
    int mat[10];
    int size;
    int even = 0, odd = 0;printf("Enter the size of array: \n");
    scanf("%d", &size);
    printf("Enter the array elements: \n");
    for(int i = 0; i < size; i++)
    {
        scanf("%d", &mat[i]);
    }
    for(int i = 0; i < size; i++)
    {
        if(mat[i]%2 == 0)
        {
            even = even + mat[i];
        }
        else
        {
            odd = odd + mat[i];
        }
    }
    printf("\n The sum of even numbers are: %d", even);
    printf("\n The sum of odd numbers are: %d\n", odd);
}
int con()
{
    int ay[10];
    int a[5] = {0, 2, 4, 6, 8};
    int b[5] = {1, 3, 5, 7, 9};
    int loop, index, a_len, b_len;
    a_len = b_len = 5;
    index = 0;
    for(loop = 0; loop < a_len; loop++)
    {
        ay[index] = a[loop];
        index++;
    }
}

```

```

    }
    for(loop = 0; loop < b_len; loop++)
    {
        ay[index] = b[loop];
        index++;
    }
    printf("\n a = ");for(loop = 0; loop < a_len; loop++)
    {
        printf(" %d", a[loop]);
    }
    printf("\n b = ");
    for(loop = 0; loop < b_len; loop++)
    {
        printf(" %d", b[loop]);
    }
    printf("\nConcatination = ");
    for(loop = 0; loop < 10; loop++)
    {
        printf(" %d", ay[loop]);
    }
    printf("\n");
}
int main()
{
    insert();
    delete();
    operation();
    con();
    return 0;
}

```

Question 2

```

#include <stdio.h>
int largest(int arr[3][5][5],int n)
{
    int i,j,k;
    int max = arr[0][0][0];
    for (i = 0; i < 3; i++)
    {
        for(j = 0; j < 5; j++ )
        {
            for (k = 0; k < 5; ++k)
            {
                if (arr[i][j][k] > max)
                    max = arr[i][j][k];
                // printf("arr[%d][%d][%d] = %d \n",i,j,k,arr[i][j][k] );
            }
        }
    }
    return max;
}

```

```

int main()
{
    int arr[3][5][5] =
    {
        {
            102, 34, 75, 0, 88,
            110, 24, 5, 9, 8,
            150, 32, 5, 0, 188,
            106, 3, 4, 9, 968,
            107, 2, 5, 0, 98
        },
        {
            102, 34, 75, 0, 88,
            110, 24, 5, 9, 8,
            150, 32, 5, 0, 188,
            106, 3, 4, 9, 968,
            107, 2, 5, 0, 98
        },
        {
            102, 34, 75, 123, 88,
            110, 24, 5, 9, 8,
            150, 3231, 5, 124, 100,
            106, 3, 4, 9, 968,
            107, 2, 5, 34, 90
        }
    };
    int n = sizeof(arr)/sizeof(arr[0][0][0]);printf("Largest in given array is %d\n", largest(arr, n));
    return 0;
}

```

Question 3

```

#include <stdio.h>

int main()
{
    int m, n, c, d, matrix[10][10], transpose[10][10];

    printf("Enter the number of rows of a matrix:");
    scanf("%d",&m);
    printf("enter the number of column of a matrix:");
    scanf("%d",&n);
    printf("Enter the element \n");
    for (c = 0; c < m; c++)
        for (d = 0; d < n; d++)
            scanf("%d", &matrix[c][d]);
    for(int i=0;i<m;i++)
    {
        for(int j=0;j<n;j++)
        {
            printf("%d  ",matrix[i][j]);

```

```

        if(j == n -1)
        {
            printf("\n");
        }
    }
}

for (c = 0; c < m; c++)
    for (d = 0; d < n; d++)
        transpose[d][c] = matrix[c][d];

printf("Transpose of the matrix:\n");

for (c = 0; c < n; c++) {
    for (d = 0; d < m; d++)
        printf("%d\t", transpose[c][d]);
    printf("\n");
}

return 0;
}

```

Question 4

```

#include <stdio.h>
#include<string.h>
int main()
{
    int i, j, found = 0;
    char *country[][2] =
    {
        { "Bhutan" },
        { "Thailand" },
        { "India" },
        { "USA" } }, name[20];
    char *city[][2] =
    {
        { "Thimphu" },
        { "Bangkok" },
        { "Dheli" },
        { "Washington DC" }
    };
    printf("Enter Country Name: \n");
    scanf("%s",&*name);
    for(i = 0; i < 5; i++)
    {
        if(strcmp(name, *country[i]) == 0 )
        {
            found = 1;
            break;
        }
    }
}

```

```
    if(found==1)
    {
        printf("\nThe Capital City Of %s Is %s.\n", name, &*city[i][j]);
    }
    else
    {
        printf("Error: You are not allowed to run this program.\n");
    }
    return 0;
}
```