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**Roll No : 54**

**Batch No : B2**

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**Lab No : 01 Part A**

**Problem Statement : Tic-Tac-Toe Game using Non-AI Approach**

**Code:**

```
#include <iostream>
#include <vector>
#include <cmath>
using namespace std;

int main()
{
    vector<int> vec;
    int i, num, count1=0, count2=0, index=0, value, power_num;
    cout<<"\n1 represents 0\n";
    cout<<"2 represents X\n";
    cout<<"0 represents blank spaces \n";
    cout<<"Enter space seperated values :\n";
    for (i=0; i<9; i++)
    {
        cin>>num;
        vec.push_back(num);
    }
    for (i=0; i<9; i++)
    {
        if (vec[i] == 1)
        {
            count1++;
        }
        else if (vec[i] == 2)
        {
            count2++;
        }
        else
        {
            continue;
        }
    }
    if ((abs(count1 - count2)) > 1)
    {
        cout<<"It is an invalid move";
        return 0;
    }
    else
```

```

{
    cout<<"Valid Board position";
    for (i=0; i<9; i++)
    {
        value = vec[i];
        power_num = pow(3, 8-i);
        index = index + (value*power_num);
    }
    cout<<"\nIndex value is: "<<index;
}
return 0;
}

```

## Output:

```

1 represents O
2 represents X
0 represents blank spaces
Enter space seperated values :
1
2
1
2
0
0
0
0
0
0
Valid Board position
Index value is: 12150
PS C:\Users\nupur\Desktop\c programs>

```

```

1 represents O
2 represents X
0 represents blank spaces
Enter space seperated values :
1
1
1
1
2
2
0
0
00
It is an invalid move
PS C:\Users\nupur\Desktop\c programs>

```