



WORKSHEET 4

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DOMAIN CAMP: 03-01-2023 to 14-01-2023 **Section/Group:** DWWC-43

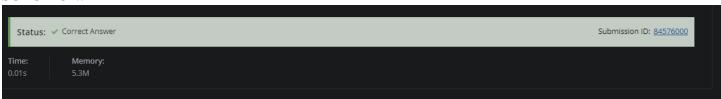
Subject Name: IT Skills (DSA)

Question 1. TEMPLE LAND (ARRAY)

```
Language: C++14
      #include <iostream>
     using namespace std;
     int main() {
    // your code goes here
           int t;
cin>>t;
           while(t--){

int n;
10
                int arr[n];
for(int i=0;i<n;i++){</pre>
                      cin>>arr[i];
                bool flag=true;
               if((n%2==0) || arr[0]!=1) flag=false;
// else if(arr[n/2]>=arr[n/2+1] || arr[n/2]<=arr[n/2-1]) flag=false;</pre>
                      int start=0, end=n-1, count=1;
                      while(start<=end){
    if(arr[start]!=arr[end] || arr[start]!=count){</pre>
23
24
                                flag=false;
                                break;
26
27
                            start++,end--;
                           count++;
30
31
                 if(flag) cout<<"yes"<<endl;</pre>
                      cout<<"no"<<endl;</pre>
```

SOLUTION:









Question 2. ROADS IN CHEFLAND (ARRAY)

```
Language: C++14

#include <iostream>
using namespace std;
int main() {
    long long t,n,cost,v;
    cin>>t;
    while(t--){
        cont-)n;
        cost=0;
    if(!(n&(n-1))){
        continue;
    }
    for(int i=1;i<=n;i<<=1){
        v=(n-i)/(i<<1);
        cost--;
        cost--;
        cout</pre>
cost--;
cost--v*i +i;
}

cost--;
cout
cost-or
rectangle for int i=1;i<=n;i<<=1){
    v=(n-i)/(i<<1);
    cost--v*i +i;
}

return 0;

0:0
```

SOLUTION:

```
Status:
✓ Correct Answer

Submission ID:
84576100

Time:
Memory:

0.38s
5.2M
```

Question 3. SOLVE THE CASE (ARRAY)

```
Language: C++14

#include <bits/stdc++.h>

using namespace std;

4

5
6 int main(){
   int t;cin>>t;
   for(int j=0;j<t;j++){
      int n;cin>>n;
   vector<int> v1, v2;
   for(int i=0;i<n;i++){
      int a; cin>a;
      v1.push_back(a);
   }

15 for(int i=0;i<n;i++){
   int temp=v1[i];
   v2.push_back(temp);
   while(temp=v1[i] && i<n}
   i++;
   }

20
   it +;
   }
   i--;
   }

21   it k=(int)v2.size();
   for(int i=0];i<n;i++){
      cout<<v2[i]<<"";
   }
   cout<<'\n';
   }
   return 0;

30 }
</pre>
```





SOLUTION:



Question 4. COOKING MACHINE (ARRAY)

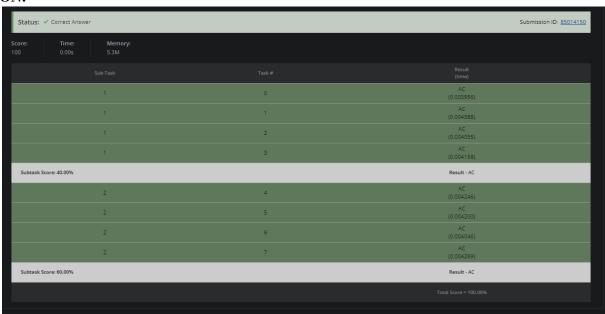
```
Language: C++14
 1 #include <bits/stdc++.h>
 2 using namespace std;
 3 - bool is(int n){
         while(n>0){
             if(c!=0 && n!=1){
 8
                 return false;
             n=n/2;
10
12
14
   → int main() {
16
         int t;
         cin>>t;
         while(t--){
           int a,b;
19
            cin>>a>>b;
20
            int counter=0;
            while(!is(a)){
22 -
               if(a==1) break;
if(a%2!=0){ a=(a-1)/2;
24
                    counter++;
               else {a=a/2;}
                counter++;}
30
            if(b>a){
                while(b>a){
34
```







SOLUTION:









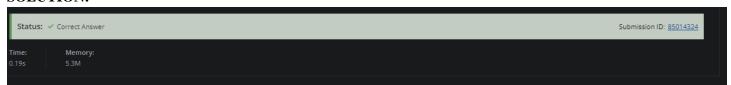
Question 5. GOLD COLLECTION (ARRAY)

```
Language. C++14

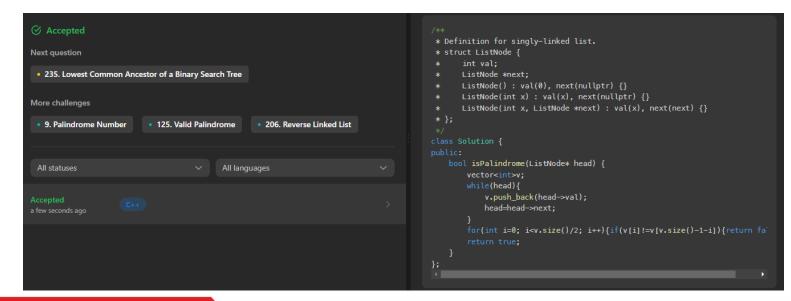
#include <iostream>
using namespace std;

int main() {
    int t;
    scanf("%d",&t);
    while(t--)
    {
        int n;
        scanf("%d",&arr[i]);
    }
    for(int i=0;i<n;i++)
    {
            scanf("%d",&arr[i]);
        }
        int q;
        scanf("%d",&arr[i]);
    }
    int q;
    scanf("%d",&arr[i]);
    }
    int q;
    scanf("%d",&arr[i]);
    }
    int q;
    scanf("%d",&arr[i]);
    }
    int q;
    scanf("%d",&arr[i]);
    }
    int q;
    scanf("%d",&arr[i]);
    }
    int q;
    scanf("%d",&arr[i]);
    }
    int q;
    scanf("%d",&arr[i]);
    }
    int q;
    scanf("%d",&arr[i]);
    }
    int q;
    scanf("%d\n", arr[q2-1]);
    }
    int qi,q2;
    scanf("%d\n", arr[q2-1]);
    }
    else
    {
            printf("%d\n", arr[q2-1]-arr[q1-2]);
    }
    return 8;
    return 8;
}</pre>
```

SOLUTION:



Question 6. PALINDROME LINKED LIST (LINKED LIST)

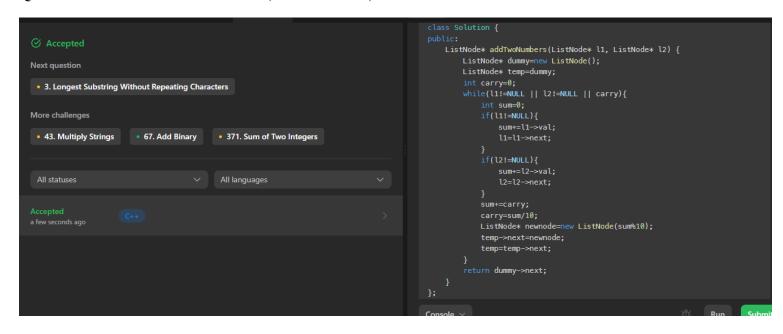




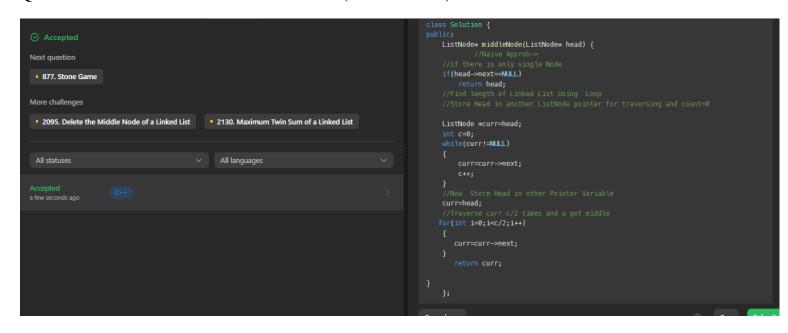




Question 7. ADD TWO NUMBERS (LINKED LIST)



Question 8. MIDDLE OF THE LINKED LIST (LINKED LIST)

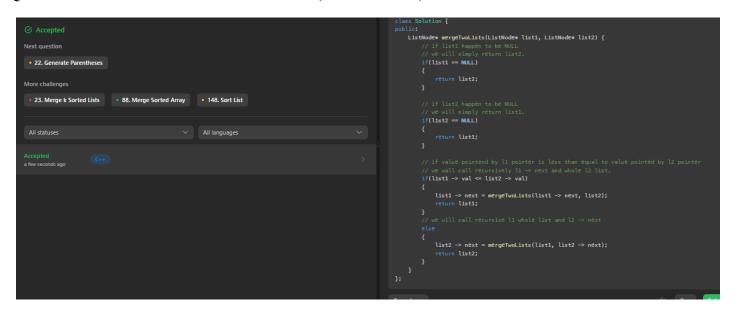




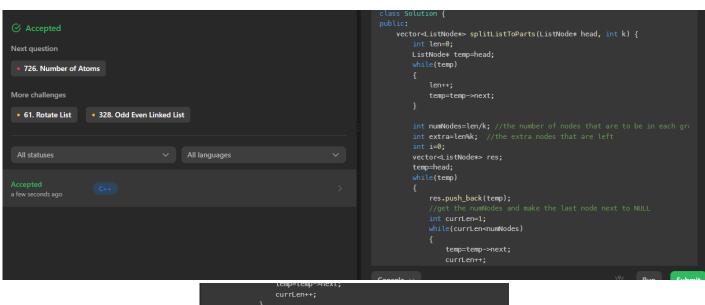




Question 9. MERGE TWO SORTED LISTS (LINKED LIST)



Question 10. SPLIT LINKED LIST IN PARTS (LINKED LIST)



currLen++;
}
if(extra>0 && len>k)
{
 temp=temp->next;
 extra--;
}
ListNode* x=temp->next;
temp->next=NULL;
temp=x;
}
//if the number of nodes are less than k we add NULL
while(len<k)
{
 res.push_back(NULL);
 len++;
}
return res;
}
};</pre>

