VIT - Vellore

Name: DIVYANSHU SINGH .
Email: divyanshu.singh2024a@vitstudent.ac.in
Roll no: 24BCT0101
Phone: 9999999999
Branch: PRIYADHARSINI M_OOPS
Department: admin
Batch: VL2024250502354
Degree: admin

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BCSE102P_Structured and Object Oriented Programming Lab_VL2024250502354

VIT V_Structured and OOP_Lab 5_COD_Easy_Inline Functions

Attempt : 1
Total Mark : 20
Marks Obtained : 20

Section 1 : Coding

1. Problem Statement

You are tasked with developing a program for a Math competition. One of the challenges in the competition requires participants to find the sum of the squares of the first n even numbers and odd numbers.

Write a C++ program that uses an inline function to calculate the sum of the squares of the first n even and odd numbers. The program should take an input value of n from the user and output the result. You need to implement the necessary functions and ensure that the program handles the computation accurately.

Function specifications:

inline int sumOfSquaresEven - calculates the sum of squares of the first n even numbers

inline int sumOfSquaresOdd - calculates the sum of squares of the first n odd numbers

Note: This is a sample question asked in Accenture recruitment.

Answer

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

class num{
  public:
   inline int sumOfSquaresEven(int k){
      int count=0;
      int n=0;
      for(int i=1;i<200;i++){
         if(i%2==0){
            n++;
            count+=i*i;

            if(n==k){
               break;
            }
         }
      }
      cout<<count<<endl;
      return 0;
   }
   inline int sumOfSquaresOdd(int k){
      int count=0;

      int n=0;
      for(int i=0;i<200;i++){
         if(i%2!=0){
            count+=i*i;
            n++;
            if(n==k){
               break;
            }
```

```
        }
    }
    cout<<count;
    return 0;
  }
};
int main(){
  num j;
  int n;
  cin>>n;
  j.sumOfSquaresEven(n);
  j.sumOfSquaresOdd(n);
  return 0;
}
```

Status : Correct ***Marks : 10/10***

2. Problem Statement

Preethi is learning programming and she got interested in how inline functions work. So she has been practicing questions on that.

Help her solve the code for the following question statement: Create an inline function isLeapYear() to check if a given year is a leap year.

Note: This is a sample question asked in a Capgemini interview.

Answer

```
#include<iostream>
using namespace std;
class leap{
  public:
  inline int isLeapYear(int n){
    if(n%4==0){
      if(n%100==0&&n%400!=0){
        cout<<n<<" "<<"is not a leap year.";
      }else{
        cout<<n<<" "<<"is a leap year.";
      }
    }else{
```

```
            cout<<n<<" "<<"is not a leap year.";
        }
        return 0;
    }
};
int main(){
    int n;
    cin>>n;
    leap u;
    u.isLeapYear(n);
    return 0;
}
```

Status : Correct *Marks : 10/10*