Proyecto Euler

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1 Ejercicios 1-10

1.1 Ejercicio1

```cpp
#include <iostream>
using namespace std;
int multiplos(int N){
    int suma;
    suma=0;
    for (int i=1;i<N;i++){
        if (i%3==0 || i%5==0)
            suma=suma+i;
    }
    return suma;
}
int main(){
    int N;
    cout<<"Number?"<<endl;
    cin>>N;
    cout<<"Sum of all the multiples of 3 or 5 below: "<<N<<" are "<<multiplos(N)<<endl;
}

```

1.2 Ejercicio2

```cpp
#include <iostream>
using namespace std;
int fibonacci(){
    int a,b;
    a=1;
    b=1;
    int suma = 0;
    while(b < 4000000){
        b=a+b;
        a=b-a;
        if (b % 2 == 0 ) suma = suma +b;
    }
    return suma;
}
int main(){
    cout<<"La suma es es: "<<fibonacci()<<endl;
    return 0;
}

```

1.3 Ejercicio3

```cpp
#include <iostream>
using namespace std;
int factorprimo(int N){
    int contador=0,maxprim=0;
    for(int i=1;i<N;i++)
        if(N%i==0){
            contador=0;
            for(int j=1;j<=i;j++){
                if(i%j==0){
                    contador=contador+1;
                }
            }
            if(contador<=2){
                maxprim=i;
            }
        }
    return maxprim;
}
int main(){
    int N;
    cout<<"Ingrese numero: "<<endl;
    cin>>N;
    cout<<"El maximo primo es: "<<factorprimo(N)<<endl;
}

```

1.4 Ejercicio4

```cpp
#include <iostream>
using namespace std;
int palindromo (){
    int palindromo,temp,aux,b = 0;
    int mayor = 0;
    for (int i = 100; i< 999; i++){
        for (int j = 100; j < 999; j++){
            palindromo = i * j;

            //Voltear numero
            temp = palindromo;
            b=0;
            //palindromo = 1532
            //temp = 0

            while ( temp > 0){
                aux = temp % 10;   //aux = 2
                temp = temp / 10;  //temp = 1
                b = b * 10 + aux;  // b = 32
            }

            //Verificar  si es palindromo
            if (palindromo==b && palindromo > mayor ) {
                mayor = palindromo;
            }

        }
    }
    return mayor;
}
int main(){
    cout<<palindromo()<<endl;
}

```

1.5 Ejercicio5

```cpp
#include <iostream>
using namespace std;
int numeromenor(){
    int N=1;
    bool a=true;
    while(N<=999999999999){
        a=true;
        for(int i=1;i<=20;i++){
            if(N%i==0)
                continue;
                else
                    a=false;
        }
        if(a==true)
            return N;
        N++;
    }
    return 0;
}
int main(){
    cout<<"El numero menor div entre los 10 es:"<<numeromenor()<<endl;
}
```

1.6 Ejercicio6

```cpp
#include <iostream>
using namespace std;
int difcuadrado(){
    int a=0,b=0,c=0;
    for(int i=1;i<=100;i++){
        a=a+i*i;
        b=i+b;
    }
    c=b*b-a;
    return c;
}
int main(){
    cout<<"La diferencia es: "<<difcuadrado()<<endl;
}
```

1.7 Ejercicio7

```cpp
#include <iostream>
using namespace std;
int primoAlto(){
    int primos = 1;
    long int actual, divisores;
    actual = 2;
    while (primos < 7){
        actual++;
        divisores = 0;
        for (int i = 1; i <= actual; i++){
            if (actual % i == 0) divisores++;
        }
        if (divisores == 2) {
            primos++;
        }
    }
    return actual;
}
int main(){
    cout<<"avo primo es:"<<primoAlto()<<endl;
}
```