Fop Lab Task 5

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Section: B

TASK 1

```cpp
#include <iostream>

using namespace std;

int main()
{
    int x = 1;   //or int x;
    do {
        cout<<"enter a number: ";
        cin>>x;
    } while(x>0);

    return 0;
}
```
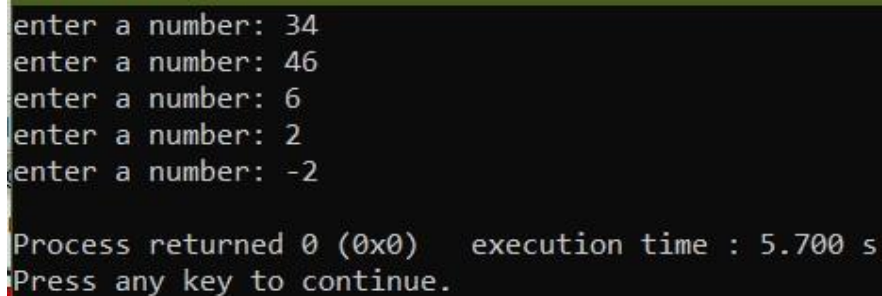
```
enter a number: 34
enter a number: 46
enter a number: 6
enter a number: 2
enter a number: -2

Process returned 0 (0x0)   execution time : 5.700 s
Press any key to continue.
```

TASK 2

```cpp
#include <iostream>
#include <math.h>
using namespace std;

int main()
{
    double num1, num2;
    char oprtr, ask;

    do {
        cout<<"Enter first number: ";
        cin>>num1;
        cout<<"Enter second number: ";
        cin>>num2;
        cout<<"Enter '+' for addition, '-' for subtraction, '*' for multiplication, '/' for division: '%' for modulo, 'p' for power: ";
        cin>>oprtr;

        cout<<"Answer is ";
        switch(oprtr) {
        case '+':
            cout<<num1+num2;
            break;
        case '-':
            cout<<num1-num2;
            break;
        case '*':
            cout<<num1*num2;
```

```cpp
            break;
        case '/':
            cout<<num1/num2;
            break;
        case '%':
            cout<<(int)num1%(int)num2;
            break;
        case 'p':
            cout<<pow(num1, num2);
            break;
        }
        cout<<endl<<"Want to calculate again? Enter 'y' for YES and 'n' for NO: ";
        cin>>ask;
    } while (ask == 'Y' || ask == 'y');
    return 0;
}
```

```
Enter first number: 34
Enter second number: 5
Enter '+' for addition, '-' for subtraction, '*' for multiplication, '/' for division: '%' for modulo, 'p' for power: *
Answer is 170
Want to calculate again? Enter 'y' for YES and 'n' for NO: Y
Enter first number: 5
Enter second number: 3
Enter '+' for addition, '-' for subtraction, '*' for multiplication, '/' for division: '%' for modulo, 'p' for power: %
Answer is 2
Want to calculate again? Enter 'y' for YES and 'n' for NO: Y
Enter first number: 5
Enter second number: 2
Enter '+' for addition, '-' for subtraction, '*' for multiplication, '/' for division: '%' for modulo, 'p' for power: p
Answer is 25
Want to calculate again? Enter 'y' for YES and 'n' for NO:
```

TASK 3 (a)

```cpp
#include <iostream>
using namespace std;
int main()
{
```

```cpp
    int i = 2, sum=0;

    while (i<=100) {

        if (i%2==0) {

            sum+=i;

        }

        i++;

    }

    cout<<"Sum of all even numbers is "<<sum;

    return 0;
```
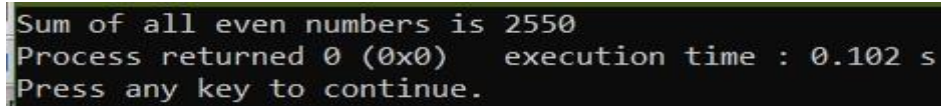
```
Sum of all even numbers is 2550
Process returned 0 (0x0)    execution time : 0.102 s
Press any key to continue.
```
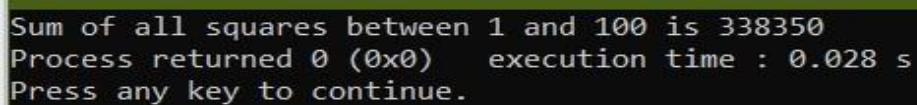
TASK 3 (b)

```cpp
#include <iostream>

#include <math.h>

using namespace std;

int main()

{

    int i = 1, sum=0;

    while (i<=100) {

        sum+=pow(i, 2);

        i++;

    }

    cout<<"Sum of all squares between 1 and 100 is "<<sum;

}
```

```
Sum of all squares between 1 and 100 is 338350
Process returned 0 (0x0)    execution time : 0.028 s
Press any key to continue.
```
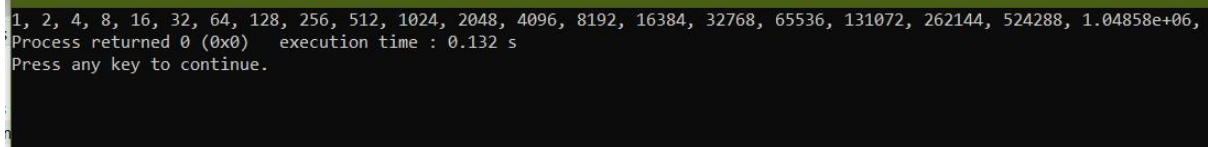
TASK 4 (a)

```cpp
#include <iostream>

#include <math.h>

using namespace std;

int main()

{

    int i = 0;

    while (i<=20) {

        cout<<pow(2, i)<<", ";

        i++;

    }

    return 0;

}
```

```
1, 2, 4, 8, 16, 32, 64, 128, 256, 512, 1024, 2048, 4096, 8192, 16384, 32768, 65536, 131072, 262144, 524288, 1.04858e+06,
Process returned 0 (0x0)   execution time : 0.132 s
Press any key to continue.
```

TASK 4 (b)

```cpp
#include <iostream>

#include <math.h>

using namespace std;


int main()

{

    int a, b, sum=0;

    cout<<"Enter value of a: ";

    cin>>a;

    cout<<"Enter value of b: ";

    cin>>b;
```
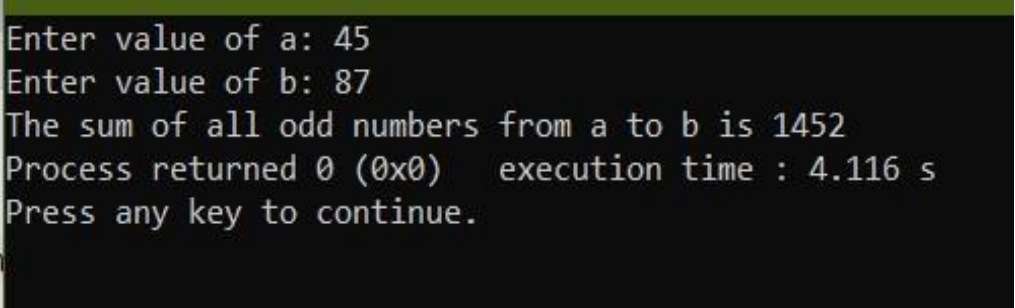
```
    while (a<=b) {

      if (a%2==1){

        sum+=a;

      }

      a++;

    }

    cout<<"The sum of all odd numbers from a to b is "<<sum;

    return 0;

}
```

```
Enter value of a: 45
Enter value of b: 87
The sum of all odd numbers from a to b is 1452
Process returned 0 (0x0)    execution time : 4.116 s
Press any key to continue.
```