

## MUBEEN AHMAD LAB TASK 5

### QUESTION 1

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

int main(){
    char option;
    do {
        double a,b,answer;
        char operation;

        cout<<"Enter the first number: ";
        cin>>a;

        cout<<"Enter the second number: ";
        cin>>b;

        cout<<"Enter an operation(+, -, *, /, ^): ";
        cin>>operation;

        switch (operation){
            case '+':
                answer=a+b;
                break;
```

```

    case '-':
        answer=a-b;
        break;
    case '*':
        answer=a*b;
        break;
    case '/':
        if (b != 0){
            answer=a/b;
        } else{
            cout<<"Division by zero is not allowed."<<endl;
            answer = 0.0;
        }
        break;
    case '^':
        answer= pow(a,b);
        break;
    default:
        cout<<"Invalid operation."<<endl;
        answer=0.0;
}
cout<<"Result: "<<answer<<endl;

} while(option=='y' | |option=='Y');

cout<<"Thanks for using my coded calculator."<<endl;
return 0;

```

```
}
```

## QUESTION 2

```
#include <iostream>
```

```
using namespace std;
```

```
int main(){
```

```
    //Part A
```

```
    int num=2;
```

```
    int sum=0;
```

```
    while(num<=100){
```

```
        sum += num;
```

```
        num += 2;
```

```
    }
```

```
    cout<<"The sum of all even numbers between 2 and 100 is: "<<sum<<endl;
```

```
    //Part B
```

```
    int num2=1;
```

```
    int sum2=0;
```

```
    do {
```

```
        sum2 += num2*num2;
```

```
        num2++;
```

```
    } while(num2<=100);
```

```
cout<<"The sum of all the squares between 1 and 100 is: "<<sum2<<endl;

return 0;
}
```

### QUESTION 3

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

int main(){
    //Part A
    int num=2;
    int sum=0;

    while(num<=100){
        sum += num;
        num += 2;
    }

    cout<<"The sum of all even numbers between 2 and 100 is: "<<sum<<endl;

    //Part B
    int num2=1;
    int sum2=0;
```

```

do {
    sum2 += num2*num2;
    num2++;
} while(num2<=100);

cout<<"The sum of all the squares between 1 and 100 is: "<<sum2<<endl;

return 0;
}

```

#### QUESTION 4

```

#include <iostream>
#include <math.h>

using namespace std;

int main(){
    int power=0;
    while (power<=20){
        long long answer = static_cast<long long>(pow(2, power));
        cout<<"2^"<<power<<"="<<answer<<endl;
        power++;
    }
    cout<<"    "<<endl;
}

```

```
int A,B;

cout<<"Enter the starting number(A): ";

cin>>A;

cout<<"Enter the ending number(B): ";

cin>>B;


if(A>B){

    cout<<"Invalid input. A should be less than or equal to B." << endl;

} else {

    int sum=0;

    do {

        if (A != 0) {

            sum += A;

        }

        A++;

    } while(A<=B);


    cout << "The sum of all odd numbers between " << A << " and " << B << " is: " << sum <<
endl;

}


return 0;

}
```