Lab manual 5

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

```
C:\C++\Lab task 5.exe

enter a number: 5
enter a number: 6
enter a number: 7
enter a number: 6
enter a number: 5
enter a number: 5
enter a number: 4
enter a number: 5
enter a number:

7
enter a number: 8
enter a number: 5
enter a number: 4
enter a number: 4
enter a number:
```

```cpp
double num1,num2;

        char operation, termination;

        cout<<"The operation will be performed in the order: num1 'operation' num2."<<endl;

        cout<<"Enter the numbers appropriately for the desired results."<<endl;

        do      {

                        cout<<"Enter the first number"<<endl;

                        cin>>num1;

                        cout<<"Enter the second number"<<endl;

                        cin>>num2;

                        cout<<"Enter + for addition."<<endl;

                        cout<<"Enter - for subtraction."<<endl;

                        cout<<"Enter * for product."<<endl;

                        cout<<"Enter / for quotient."<<endl;

                        cout<<"Enter % for modulus."<<endl;

                        cout<<"Enter ^ for power."<<endl;
```

```cpp
                cin>>operation;
                while(operation!='^'&& operation!='+' && operation!='-'&& operation!='*'
&&operation!='/' &&operation!='%')    {
                        cout<<"Invalid operation. Please enter a valid operation."<<endl;
                        cin>>operation;
                }
                switch (operation)        {
                        case '+' :
                                cout<<"The sum of the two numbers is "<<num1+num2<<endl;
                        break;
                        case '-' :
                                cout<<"The difference of the two numbers is "<<num1-
num2<<endl;
                        break;
                        case '*' :
                                cout<<"The product of the two numbers is
"<<num1*num2<<endl;
                        break;
                        case '/' :
                                cout<<"The quotient of the two numbers is
"<<num1/num2<<endl;
                        break;
                        case '%' :
                                cout<<"The modulus of the two numbers is
"<<fmod(num1,num2)<<endl;
                        break;
                        case '^':
                                cout<<"Power function performed on these numbers gives
"<<pow(num1,num2)<<endl;
                }
                cout<<"Do you wish to terminate the program?"<<endl;
```

```
            cout<<"For yes, press Y."<<endl;

            cout<<"For No, press any other key."<<endl;

            cin>>termination;

} while (termination!='y'&& termination!='Y');
```

```
The operation will be performed in the order: num1 'operation' num2.
Enter the numbers appropriately for the desired results.
Enter the first number
5
Enter the second number
3
Enter + for addition.
Enter - for subtraction.
Enter * for product.
Enter / for quotient.
Enter % for modulus.
Enter ^ for power.
^
Power function performed on these numbers gives 125
Do you wish to terminate the program?
For yes, press Y.
For No, press any other key.
g
Enter the first number
3
Enter the second number
4
Enter + for addition.
Enter - for subtraction.
Enter * for product.
Enter / for quotient.
Enter % for modulus.
Enter ^ for power.
*
The product of the two numbers is 12
```

```
Do you wish to terminate the program?
For yes, press Y.
For No, press any other key.
g
Enter the first number
3
Enter the second number
4
Enter + for addition.
Enter - for subtraction.
Enter * for product.
Enter / for quotient.
Enter % for modulus.
Enter ^ for power.
*
The product of the two numbers is 12
Do you wish to terminate the program?
For yes, press Y.
For No, press any other key.
y

-------------------------------
Process exited after 15.27 seconds with ret
Press any key to continue . . .
```

```cpp
int sum=0, i=1;
//      do      {
//              if(i%2==0)      {
//                      sum=sum+i;
//              }
//              i++;
//      }       while(i<=100);
//      cout<<"The sum of all even numbers between 2 and 100(inclusive) is "<<sum;
// end of task 3a
```

```
The sum of all even numbers between 2 and 100(inclusive) is 2550
-------------------------------
Process exited after 0.1006 seconds with return value 0
Press any key to continue . . . _
```
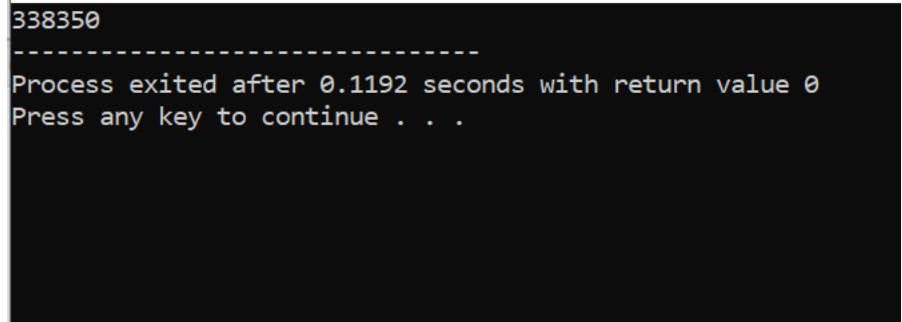
```
        int sum=0, i=1;

        do      {

                sum=sum + i*i;

                i++;

        } while(i<=100);

        cout<<sum;
//              end of task 3b
```



```
//      double power=0, power_answer;

//      do      {

//              power_answer=pow(2,power);

//              cout<<"Two to the power "<<power<<" is "<<power_answer<<endl;

//              power++;

//      }while(power<=20);

//              enf of task 4a
```

```
C:\C++\Lab task 5.exe

Two to the power 0 is 1
Two to the power 1 is 2
Two to the power 2 is 4
Two to the power 3 is 8
Two to the power 4 is 16
Two to the power 5 is 32
Two to the power 6 is 64
Two to the power 7 is 128
Two to the power 8 is 256
Two to the power 9 is 512
Two to the power 10 is 1024
Two to the power 11 is 2048
Two to the power 12 is 4096
Two to the power 13 is 8192
Two to the power 14 is 16384
Two to the power 15 is 32768
Two to the power 16 is 65536
Two to the power 17 is 131072
Two to the power 18 is 262144
Two to the power 19 is 524288
Two to the power 20 is 1.04858e+006


--------------------------------
Process exited after 0.1261 seconds with return value 0
Press any key to continue . . .
```

```
//        int a,b,num,sum=0;

//        cout<<"Enter the starting number 'a'."<<endl;

//        cin>>a;

//        cout<<"Enter the ending number 'b'."<<endl;

//        cin>>b;

//        num=a;

//        do      {

//                  if(num%2==1)  {

//                        sum=sum+num;

//                  }

//        num++;

//        } while(num<=b);

//        cout<<"Sum of all odd numbers between "<<a<<" and "<<b<<" is "<<sum;
```

//   end of task 4b

```
Enter the starting number 'a'.
5
Enter the ending number 'b'.
9
Sum of all odd numbers between 5 and 9 is 21
-------------------------------
Process exited after 2.274 seconds with return value 0
Press any key to continue . . .
```

```
Enter the starting number 'a'.
5
Enter the ending number 'b'.
5
Sum of all odd numbers between 5 and 5 is 5
-------------------------------
Process exited after 1.223 seconds with return value 0
Press any key to continue . . . _
```