



## CS-114 - Fundamental of Programing

### Lab task # 05

**Course Instructor:** Dr Jawad Khan

**Lab Instructor:** Muhammad Affan

**Student Name:** AATIKA KAMRAN

**CMS ID:** 464185

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## Task 1

Code

```
#include <iostream>
using namespace std;
int main() {
    int x=1;
    do {
        cout<<"enter a number " << endl;
        cin>>x;
    }
    while (x>0) ;
    return 0;
}
```

Output

```
enter a number
4
enter a number
3
enter a number
4
enter a number
-1
-----
Process exited after 46.56 seconds with return value 0
Press any key to continue . . .
```

## Task 2

Code

```

#include <iostream>
#include <math.h>
using namespace std;
int main() {
    int x, y, ans=0, i;
    char operation;
    do {
        cout<<"enter first number"<<endl;
        cin>>x;
        cout<<"enter second number"<<endl;
        cin>>y;
        cout<<"enter operation(+for addition,- for subtraction, * for multiplication, / for division , % for modulus , ^ for power"<<endl;
        cin>>operation;
        switch (operation) {
            case '+':
                ans=x+y;
                break;
            case '-':
                ans=x-y;
                break;
            case '*':
                ans=x*y;
                break;
            case '/':
                if (y==0) {
                    cout<<"invalid denominator"<<endl;
                }
                ans=x/y;
                break;
            case '%':
                if (y==0) {
                    cout<<"invalid second number"<<endl;
                }
                ans=x%y;
                break;
            case '^':
                ans=pow(x,y);
                break;
            default:
                cout<<"invalid operation try again"<<endl;
        }
        cout<<ans<<endl;
        cout<<"press 1 to continue and 0 for termination"<<endl;
        cin>>i;
    } while (i==1);
    return 0;
}
//

```

## Output

```

enter first number
3
enter second number
2
enter operation(+for addition,- for subtraction, * for multiplication, / for division , % for modulus , ^ for power
+
THE RESULT IS 5
press 1 to continue and 0 for termination
1
enter first number
3
enter second number
2
enter operation(+for addition,- for subtraction, * for multiplication, / for division , % for modulus , ^ for power
-
THE RESULT IS 1
press 1 to continue and 0 for termination
1
enter first number
3
enter second number
2
enter operation(+for addition,- for subtraction, * for multiplication, / for division , % for modulus , ^ for power
*
THE RESULT IS 6

```

## Task 3

### Code

```
#include <iostream>
#include<math.h>
using namespace std;
int main() {
    int x=2,sum=0;
    while (x<=100) {
        if (x%2==0) {
            sum =sum+x;
        }
        x++;
    }
    cout<<sum<<endl;
    return 0;
}
```

### Output

```
2550
-----
Process exited
Press any key to
```

### Code

```
..
#include <iostream>
#include<math.h>
using namespace std;
int main() {
    int x=1,sum=0;
    while (x<=100) {
        sum=sum + x*x;
        x++;
    }
    //cout<<sum<<endl;
}
```

### Output

```
1, 5, 14, 30, 55, 91, 140, 204, 285, 385, 506, 650, 819, 1015, 1240, 1496, 1785, 2109, 2470, 2870, 3311, 3795, 4324, 4900, 5525, 6201, 6930, 7714, 8555, 9455, 10416, 11440, 12529, 13685, 14910, 16206, 17575, 19019, 20540, 22140, 23821, 25585, 27434, 29370, 31395, 33511, 35720, 38024, 40425, 42925, 45526, 48230, 51039, 53955, 56980, 60116, 63365, 66729, 70210, 73810, 77531, 81375, 85344, 89440, 93665, 98021, 102510, 107134, 111895, 116795, 121836, 127020, 132349, 137825, 143450, 149226, 155155, 161239, 167480, 173880, 180441, 187165, 194054, 201110, 208335, 215731, 223300, 231044, 238965, 247065, 255346, 263810, 272459, 281295, 290320, 299536, 308945, 318549, 328350, 338350,
-----
```

## Task 4

### Code

```
#include <iostream>
#include<math.h>
using namespace std;
int main() {
    int x=0;
    while (x<=20) {
        cout<<pow(2,x)<<" ";
        x++;
    }
}
```

### Output

```
1,2,4,8,16,32,64,128,256,512,1024,2048,4096,8192,16384,32768,65536,131072,262144,524288,1.04858e+006,
-----
Process exited after 0.3678 seconds with return value 0
Press any key to continue . . .
```

### Code

```
#include <iostream>
#include<math.h>
using namespace std;
int main() {
    int a,b , sum=0 ;
    cout<<"enter 1st number"<<endl;
    cin>>a;
    cout<<"enter 2nd number"<<endl;
    cin>>b;

    while (a<=b ) {
        if (a%2==1 ) {
            sum=sum+a;
        }
        a++;
    }
    cout<<"sum = "<<sum<<endl;

    return 0;
}
```

### Output

```
enter 1st number
2
enter 2nd number
6
sum = 8
-----
```