**Lab manual 5**

**Lab Task**

Task 1

#include <iostream>

using namespace std;

int main(){

int x = 1;

do{

cout << "enter a number: ";

cin >> x;

}

while (x > 0);

}

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**Task 2**

#include <iostream>

using namespace std;

int main(){

char operation;

int a,b,c,d,setup;

do{

cout<<"enter the first number :";

cin>>a;

cout<<"enter the operation";

cin>>operation;

cout<<"enter the second number :";

cin>>b;

switch(operation){

case '+':

cout<<a<<"+"<<b<<"="<<a+b<<endl;

break;

case '-':

cout<<a<<"-"<<b<<"="<<a-b<<endl;

break;

case '\*':

cout<<a<<"x"<<b<<"="<<a\*b<<endl;

break;

case '/':

cout<<a<<"/"<<b<<"="<<a/b<<endl;

break;

}

cout<<"Do you want to continue the operation?(1/0)";

cin>>setup;

}

while(setup==1);

}

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Task 3

(a)

#include <iostream>

using namespace std;

int main(){

int sum,a;

sum=0;

a=2;

while(a<=100){

if(a%2==0){

sum=sum+a;

cout<<sum<<endl;

}

a++;

}

}

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(b)

#include <iostream>

using namespace std;

int main(){

int sum,a,c;

sum=0;

a=1;

while(a<=100){

c=a\*a;

sum=sum+c;

cout<<sum<<endl;

a++;

}

}

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Task 4

(a)

#include <iostream>

#include<cmath>

using namespace std;

int main(){

cout<<"1"<<endl;

int a=1,sum=1,b=1;

while(b<20){

sum=sum\*2;

b++;

cout<<sum<<endl;

}

}

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(b)

#include <iostream>

#include<cmath>

using namespace std;

int main(){

int a,b,sum=0;

cout<<"Enter the first number :";

cin>>a;

cout<<"Enter the second number :";

cin>>b;

while (a<=b){

if(a%2!=0){

sum+=a;

}

a++;

}

cout<<sum;

}

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**HOME TASK**

Task 1

#include <iostream>

#include<cmath>

using namespace std;

int main(){

int a,b,c,d,e;

cout<<"Enter the first number :";

cin>>a;

d=a;

cout<<"Enter the second number :";

cin>>b;

e=b;

while (b%a!=0){

c=a;

a=b%a;

b=c;

}

cout<<"HCF is :"<<a<<endl;

cout<<"LCM is :"<<(d\*e)/a;

}

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Task 2

#include <iostream>

#include<cmath>

using namespace std;

int main(){

int a,n,d;

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

cin>>a;

cout<<"Enter the numbers of repetition in series."<<endl;

cin>>n;

cout<<"Enter the common difference"<<endl;

cin>>d;

cout<<(n/2)\*(2\*a+(n-1)\*d);

}

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Task 3

#include <iostream>

#include<cmath>

using namespace std;

int main(){

int a,b,c,d,e,f,g,h;

cin>>b;

if(b%2!=1){

b++;

}

for(int a=1;a<=(b/2)+1;a++){

for(int c=(b/2)+1;c>a;c--){

cout<<" ";

}

for(int d=1;d<=(a\*2)-1;d++){

cout<<"\*";

}

cout<<endl;

} for(int a=1;a<=(b/2);a++){

for(int e=1;e<=a;e++){

cout<<" ";

}

for(int f=b-1;f>(a\*2)-1;f--){

cout<<"\*";

}

cout<<endl;

}

}

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Task 4

#include<iostream>

using namespace std;

int main(){

int a,b,d=0,x[100],f,i=1;

cin>>a;

while(a!=0){

x[i]=a%2;

a=a/2;

i++;

f=i;

}

for(int i=f-1;i>=1;i--){

cout<<x[i];

}

}