Fundamentals of programming

Lab Manual 5

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ME-15 Section A

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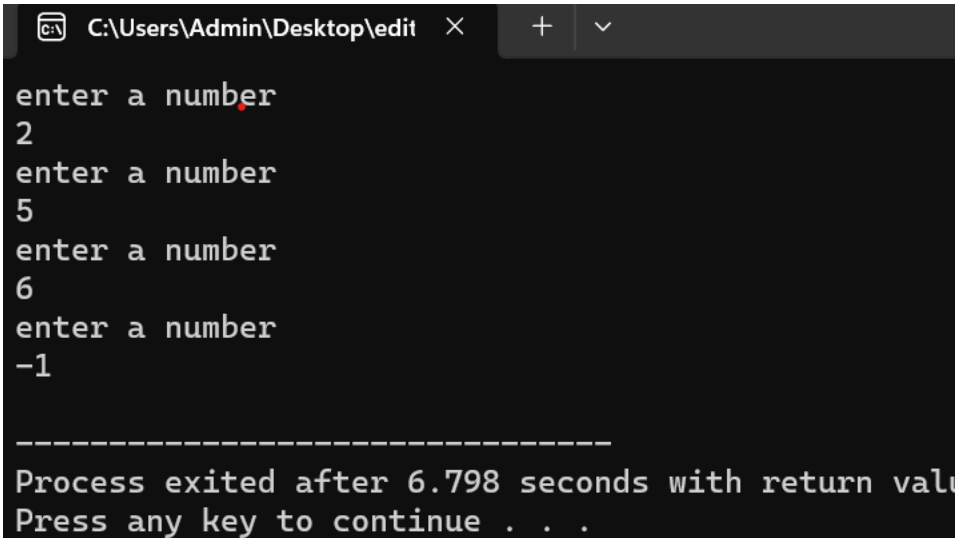
Lab Tasks

1. int main(){

```
    int x=1;
    do{
        //asking the user to enter number in loop again until its less than 0
        cout<<"enter a number"<<endl;
        cin>>x    ;
    }
    while (x>0);
    return 0;
}
```



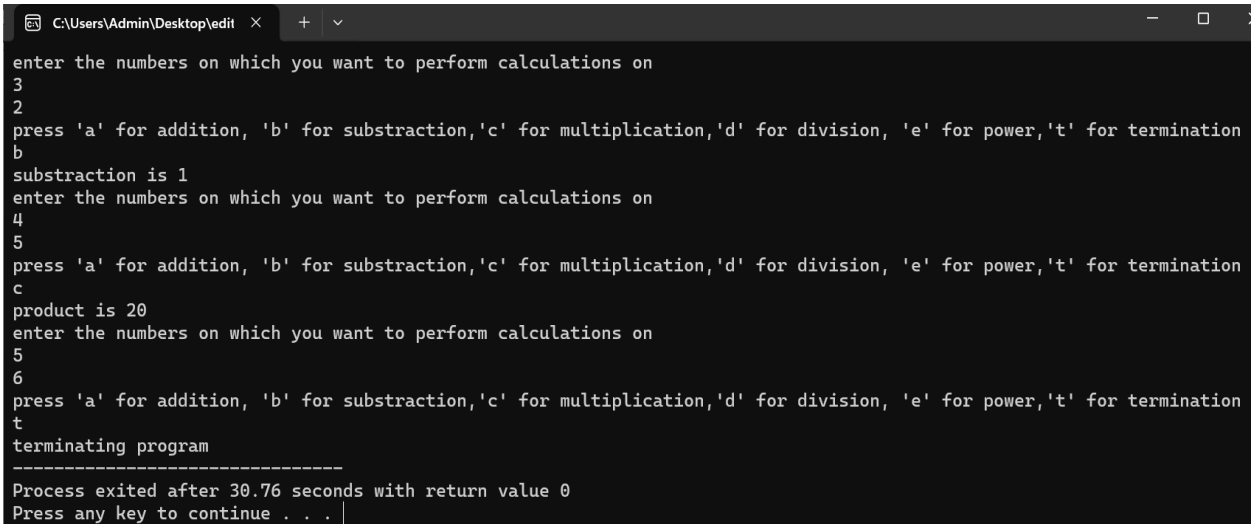
2. int main(){

    int num1,num2,result;

```
    char task;
    do{
        //askin user to enter numbers
        cout<<"enter the numbers on which you want to perform calculations on"<<endl;
        cin>>num1;
        cin>>num2;
        //asking user to select desired operation to perform
        cout<<"press 'a' for addition, 'b' for substraction,'c' for multiplication,'d' for division, 'e' for power,'t' for termination"<<endl;
        cin>>task;
        //using switc to perform differant tasks
        switch (task){
            case 'a': result= num1+num2;
                cout<<"sum is "<<result<<endl;
                break;
            case 'b': result= num1-num2;
```

```
                    cout<<"substraction is
"<<result<<endl;
                    break;
                case 'c': result= num1*num2;
                    cout<<"product is "<<result<<endl;
                    break;
                case 'd': result= num1/num2;
                    cout<<"division is "<<result<<endl;
                    break;
                case 'e': result= pow(num1,num2);
                    cout<<"result is "<<result<<endl;
                    break;
                default :if(task!='t'){
                    cout<<"invalid operation"<<endl;}
                    else{cout<<"terminating program";
                    }
            }
      //continuously performing calculations until t is
presse
```

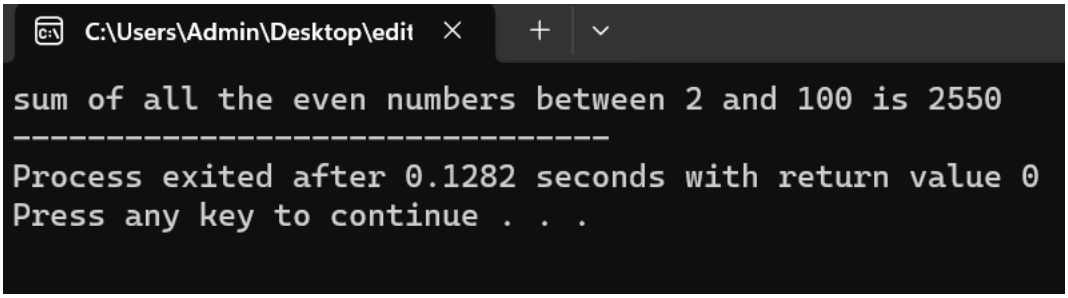
```
    }while (task!= 't');
  return 0;
}
```



3 a.

```
int main(){
    int num,sum;
    num=1;
    sum=0;
    //using while loop to add even numbers between 1 and 100 inclusive
    while(num>0&&num<101){
        if (num%2==0){
            sum = sum +num;
```

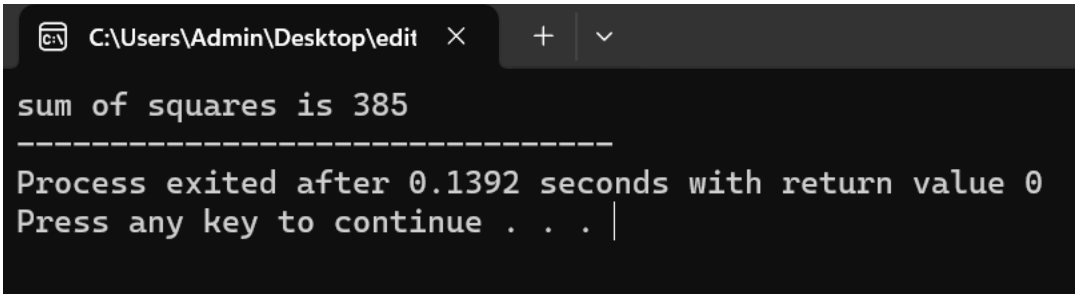
```
        }
        num=num+1;
    }
    cout<<"sum of all the even numbers between 2 and 100 is "<<sum;
    return 0;
}
```



Q3 b.

```
int main(){
    int num,squ,sum;
    sum=0;
    num=1;
    squ=0;
    //using while loop top calculate sum all squares between 1 and 100 inclusive
```

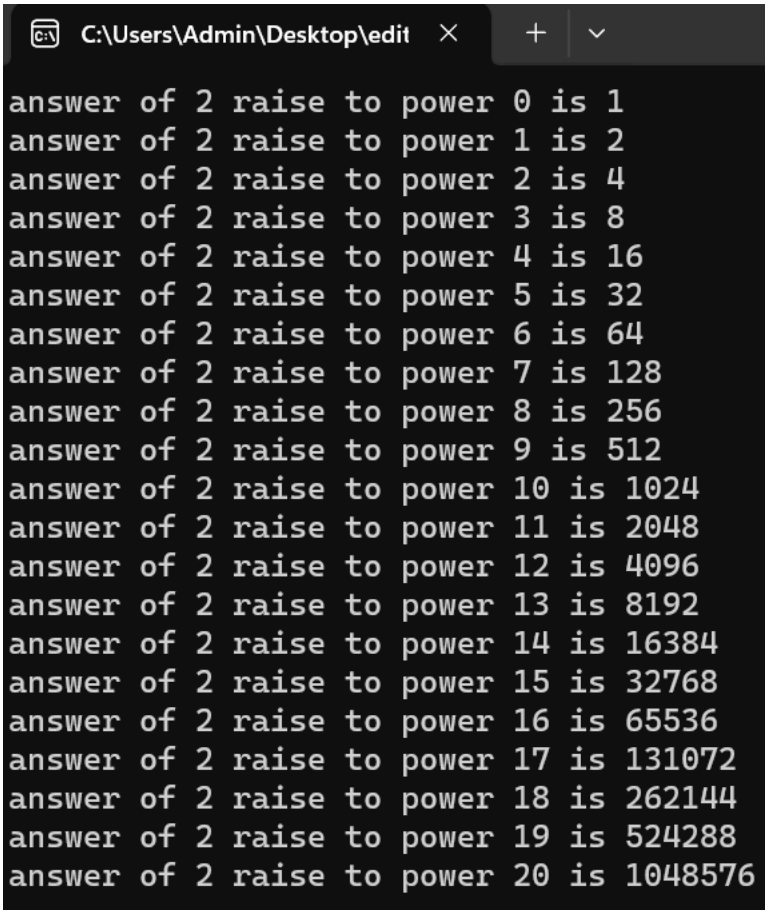
```
        while (squ<100)
        {squ= num*num;
        sum=sum+squ;
        num=num+1;
        }
        //outputting result after ending loop
        cout<<"sum of squares is "<<sum;
}
```



Q4 a.

```
int main(){
        int num,power;
        num=0;
        power=0;
        //using while loop to output all powers of 2 upto 20
```

```
    while(num<21){
        power=pow(2,num);
        cout<<"answer of 2 raise to power "<<num<<" is "<<power<<endl;
        num=num+1;
    }
}
```

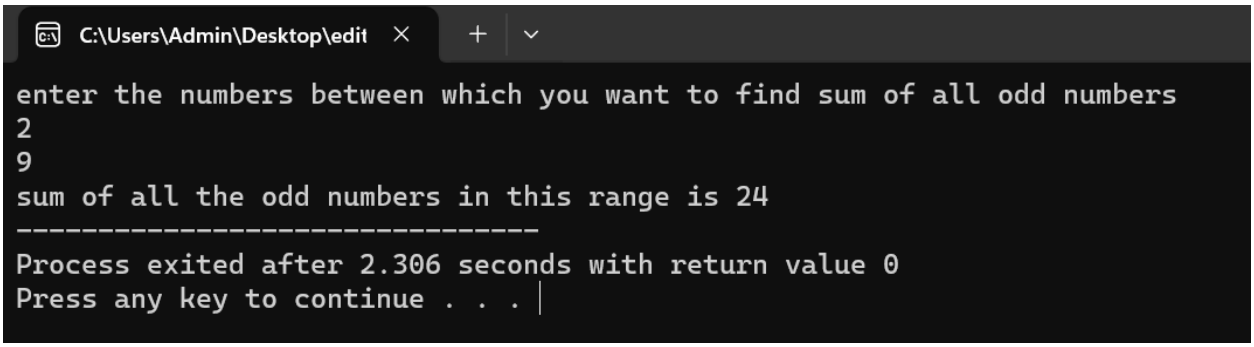


Q4 b.

```
int main(){
```

```
	int start,end,sum;
	//asking user to enter range
	cout<<"enter the numbers between which you want to find sum of all odd numbers"<<endl;
	cin>>start;
	cin>>end;
	//making sure that first and last number are odd
	if (start%2==0)
	{start=start+1;	}
	if(end%2==0){end=end-1;}
	sum=start;
	while(start!=end || start<end-2)
	{start=start+2;
	sum=sum+start;
	}
	cout<<"sum of all the odd numbers in this range is "<<sum;

}
```


C:\Users\Admin\Desktop\edit
enter the numbers between which you want to find sum of all odd numbers
2
9
sum of all the odd numbers in this range is 24

Process exited after 2.306 seconds with return value 0
Press any key to continue . . .