

COMPUTER SYSTEMS AND PROGRAMING

(Home Assignment-4)

NAME: SAMEEN WASEEM

BATCH: ME-15

SECTION: A

CMS ID: 465064

SUBMITTED TO:

COURSE INSTRUCTOR: DR MUHAMMAD JAWAD KHAN

LAB INSTRUCTOR: SIR MUHAMMAD AFFAN



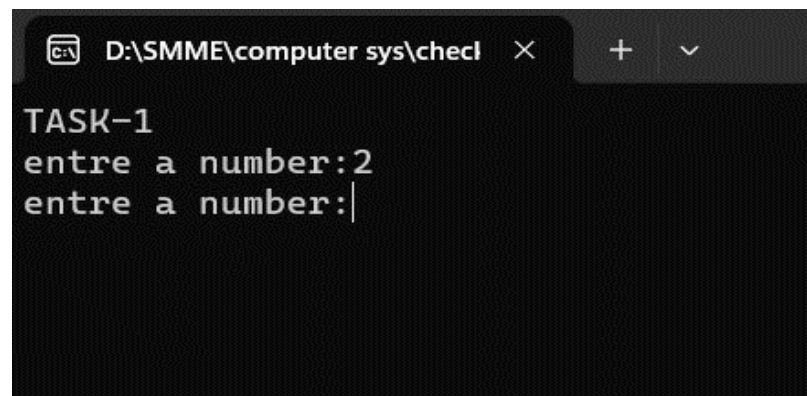
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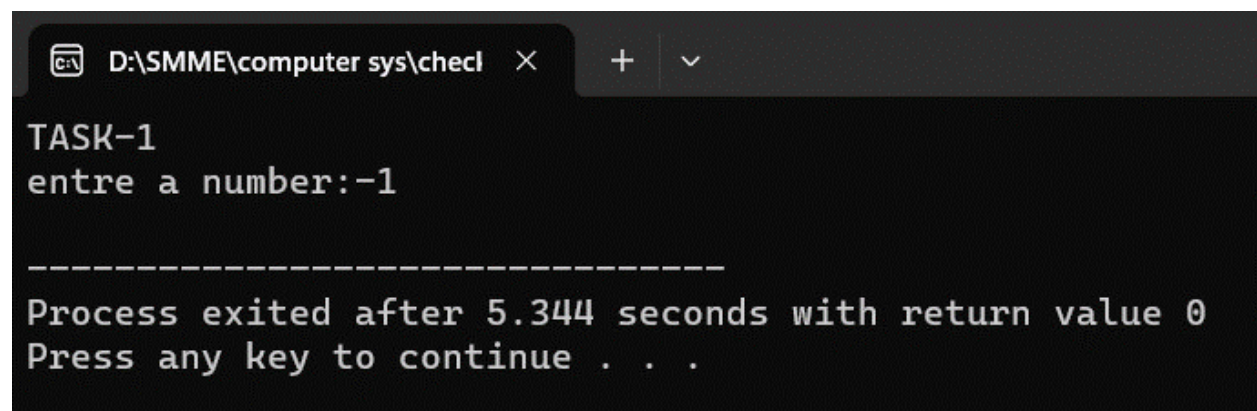
TASK-1:

```
1  #include<iostream>
2  #include<math.h>
3  using namespace std;
4  int main()
5  {
6  //TASK-1:convert the while loop yo a do-while loop.
7  cout<<"TASK-1"<<endl;
8      int x=1;
9      do{
10         cout<<"entre a number:";
11         cin>>x;
12     }
13     while
14         (x>0);
15 //end of task-1.
```

OUTPUT:



```
D:\SMME\computer sys\checkl  X  +  v
TASK-1
entre a number:2
entre a number:|
```



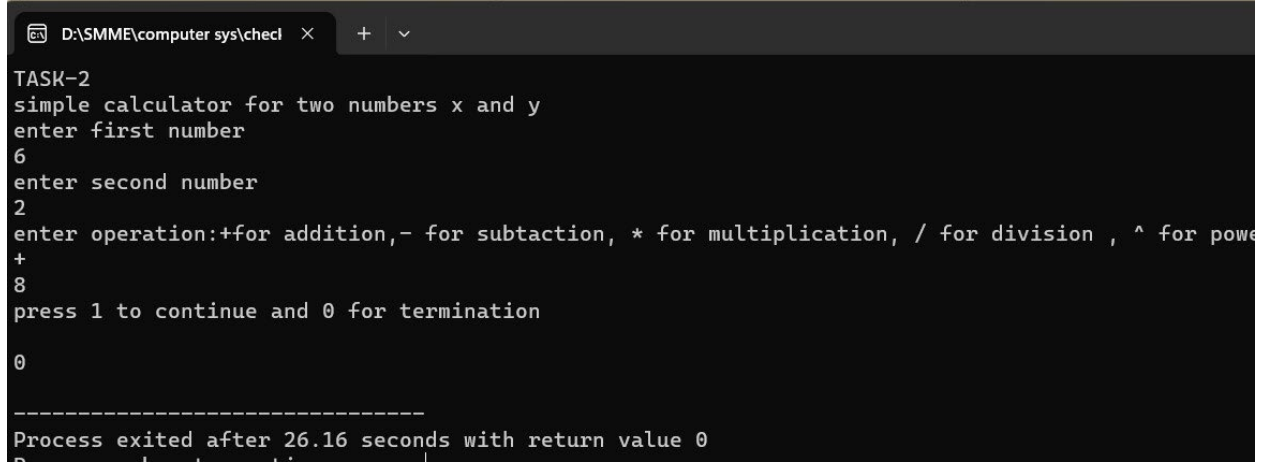
```
D:\SMME\computer sys\checkl  X  +  v
TASK-1
entre a number:-1

-----
Process exited after 5.344 seconds with return value 0
Press any key to continue . . .
```

TASK-2:

```
1  #include<iostream>
2  #include<math.h>
3  using namespace std;
4  int main()
5  {
6      cout<<"TASK-2"<<endl;
7      cout<<"simple calculator for two numbers x and y"<<endl;
8
9      int x, y, z=0, i;
10     char operation;
11     do {
12         cout<<"enter first number"<<endl;
13         cin>>x;
14         cout<<"enter second number"<<endl;
15         cin>>y;
16         cout<<"enter operation:+for addition,- for subtraction, * for multiplication, / for division, ^ for power"<<endl;
17         cin>>operation;
18         switch (operation) {
19             case '+':
20                 z=x+y;
21                 break;
22             case '-':
23                 z=x-y;
24                 break;
25             case '*':
26                 z=x*y;
27                 break;
28             case '/':
29                 if (y==0) {
30                     cout<<"invalid denominator"<<endl;
31                 }
32                 z=x/y;
33                 break;
34             case '^':
35                 z=pow(x,y);
36
37
38
39             default:
40                 cout<<"invalid operation try again"<<endl;
41         }
42         cout<<z <<endl;
43
44         cout<<"press 1 to continue and 0 for termination"<<endl;
45         cin>>i;
46     }
47     while (i==1);
48     return 0;
49 }
```

OUTPUT:



```
D:\SMME\computer sys\checkl  X  +  v

TASK-2
simple calculator for two numbers x and y
enter first number
6
enter second number
2
enter operation:+for addition,- for subtraction, * for multiplication, / for division , ^ for power
+
8
press 1 to continue and 0 for termination

0

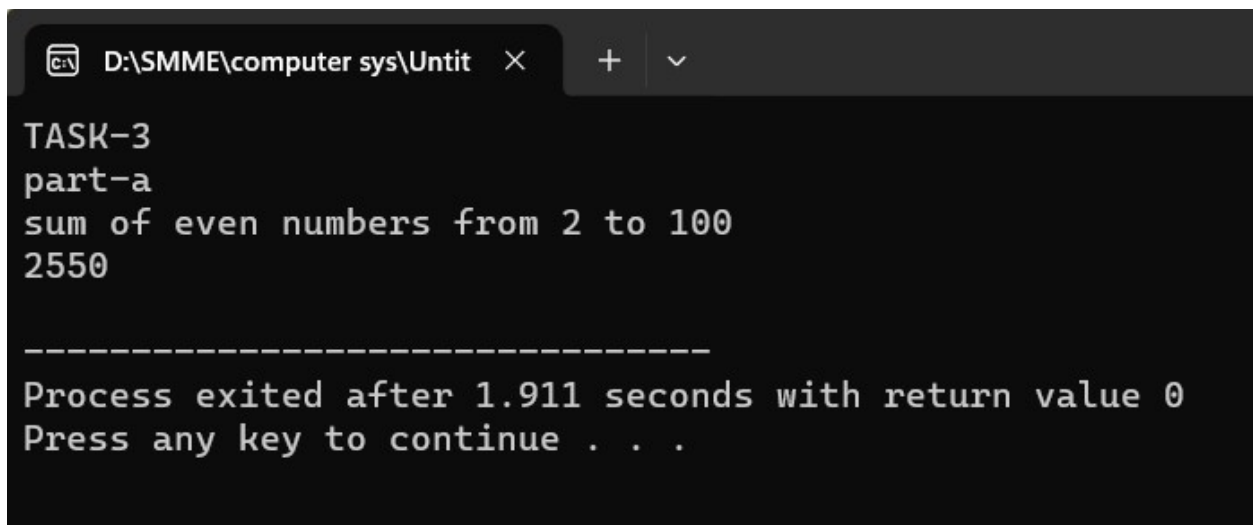
-----
Process exited after 26.16 seconds with return value 0
```

TASK-3:

A- PART

```
1  #include <iostream>
2  #include<math.h>
3  using namespace std;
4  int main() {
5      //TASK-3:write a program using while and do-while that compute followings:
6      //sum of even numbers between 2 and 100.
7      cout<<"TASK-3"<<endl;
8      cout<<"part-a"<<endl;
9      cout<<"sum of even numbers from 2 to 100"<<endl;
10     int x=2,sum=0;
11     while (x<=100) {
12         if (x%2==0) {
13             sum =sum+x;
14         }
15         x++;
16     }
17     cout<<sum<<endl;
18     return 0;
19 }
20 }
```

OUTPUT:



The screenshot shows a terminal window with a dark background. The title bar at the top reads "D:\SMME\computer sys\Untit" followed by window control buttons. The output of the program is displayed in a monospaced font. It shows the program title "TASK-3", the part identifier "part-a", and the calculation "sum of even numbers from 2 to 100" followed by the result "2550". A horizontal line of dashes separates the output from the final status message: "Process exited after 1.911 seconds with return value 0" and the prompt "Press any key to continue . . .".

```
D:\SMME\computer sys\Untit  X  +  v

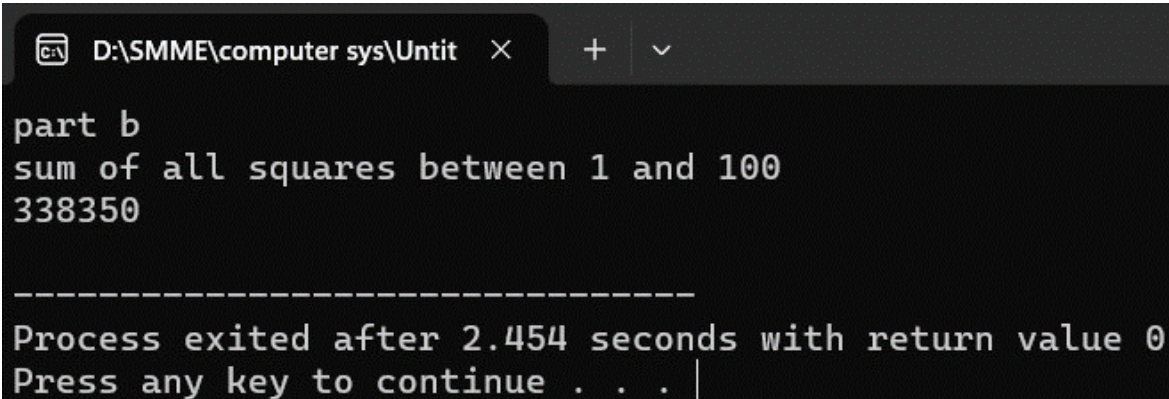
TASK-3
part-a
sum of even numbers from 2 to 100
2550

-----
Process exited after 1.911 seconds with return value 0
Press any key to continue . . .
```

PART-B

```
1  #include <iostream>
2  using namespace std;
3  int main() {
4      //sum of all squares between 1 and 100
5      cout<<"part b"<<endl;
6      cout<<"sum of all squares between 1 and 100"<<endl;
7      int y=1,SUM=0;
8      while(y<=100) {
9          SUM= SUM + y*y;
10         y++;
11     }
12     cout<<SUM<<endl;
13     return 0;
14 }
15
16 //end of task-3
```

OUTPUT:



```
D:\SMME\computer sys\Untit  X  +  v

part b
sum of all squares between 1 and 100
338350

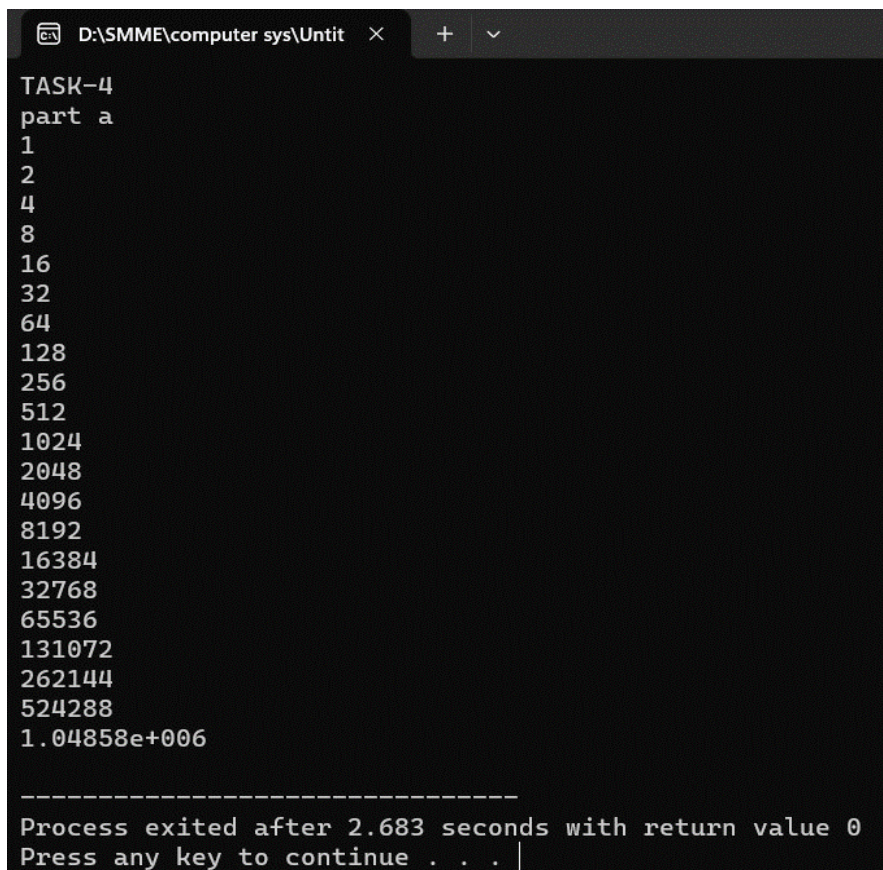
-----
Process exited after 2.454 seconds with return value 0
Press any key to continue . . . |
```


TASK-4:

PART-a

```
1  #include <iostream>
2  #include<math.h>
3  using namespace std;
4  int main() {
5      //TASK-4:A) all powers of 2 from 2 power 0 up to 2 power20
6      cout<<"TASK-4"<<endl;
7      cout<<"part a"<<endl;
8      int a=0;
9      while (a<=20) {
10
11          cout<<pow(2,a)<<endl;
12          a++;
13      }
14
15      return 0;
16  }
17
```

OUTPUT:



The screenshot shows a Windows command prompt window with the title "D:\SMME\computer sys\Un tit" and standard window controls. The output of the program is displayed in white text on a black background. It starts with "TASK-4" and "part a" on separate lines. Then, it lists the powers of 2 from 2^0 to 2^20, each on a new line. The values are: 1, 2, 4, 8, 16, 32, 64, 128, 256, 512, 1024, 2048, 4096, 8192, 16384, 32768, 65536, 131072, 262144, 524288, and 1.04858e+006. At the bottom, a separator line of dashes is followed by the message "Process exited after 2.683 seconds with return value 0" and "Press any key to continue . . . |".

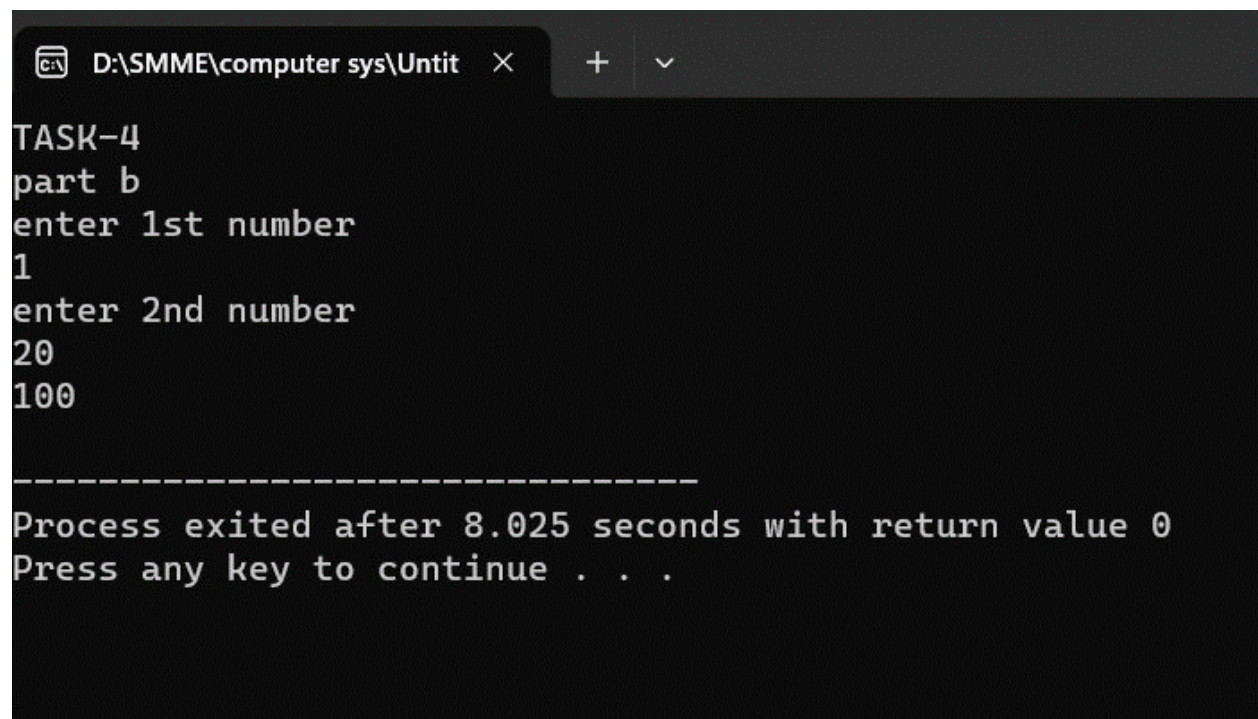
```
cn D:\SMME\computer sys\Un tit  X + v
TASK-4
part a
1
2
4
8
16
32
64
128
256
512
1024
2048
4096
8192
16384
32768
65536
131072
262144
524288
1.04858e+006

-----
Process exited after 2.683 seconds with return value 0
Press any key to continue . . . |
```

PART-B:

```
1  #include <iostream>
2  #include<math.h>
3  using namespace std;
4  int main() {
5      //B)The sum of all odd numbers between e and f (inclusive), where e and f are inputs.
6      cout<<"TASK-4"<<endl;
7      cout<<"part b"<<endl;
8      int e,f , sum=0 ;
9      cout<<"enter 1st number"<<endl;
10     cin>>e;
11     cout<<"enter 2nd number"<<endl;
12     cin>>f;
13     while (e<=f ) {
14         if (e%2==1 ) {
15             sum=sum+e;
16         }
17         e++;
18     }
19     cout<<sum<<endl;
20     return 0;
21 }
22
23 }
```

OUTPUT:



```

TASK-4
part b
enter 1st number
1
enter 2nd number
20
100

-----
Process exited after 8.025 seconds with return value 0
Press any key to continue . . .
```