**SVKM’s NMIMS**

**Mukesh Patel School of Technology Management and Engineering, Mumbai**

**Department of Electronics & Telecommunication**



**Programming for Problem Solving (Exp 4)**

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| --- | --- |
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| **Program: B. Tech Data Science (1st)** | **Batch: J1** |
| **Date of Experiment: 04/10/2022** | **Date of Submission: 04/10/2022** |

**Task 1:**

#include <iostream>

using namespace std;

int main() {

cout << "How many numbers ";

int N, A, S, C = 1, Avg;

cin >> N;

step6:

cout << "Enter the number ";

cin >> A;

S = S + A;

C = C + 1;

if(S<=N) {

goto step6;

}

Avg = S/N;

cout << "Average is " << Avg;

return 0;

}

**Task 2:**

**There is a difference between the first and second one as the plus operator is suffix and prefixed which will increase the value before the first iteration and vice versa**

**Task 3:**

**1:**

**Hello**

**Hello**

**Hello**

**Hello**

**Hello**

**2:**

**51**

**3:**

**54321**

**4:**

**531**

**5:**

**Prints “I am a loop” 1000 times**

**6:**

**Prints from 1 to infinity**

**7:**

**iTry wasn’t initialized**

**8:**

**1621**

**Task 4:**

#include<iostream>

using namespace std;

int main() {

int no, n1 = 0, n2 = 1, current\_no;

cout << "Enter number for fibonacci terms : ";

cin >> no;

cout << "\n\nFibonacci Series is :\n";

for (int i = 0; i < no; i++) {

if (i <= 1)

current\_no = i;

else {

current\_no = n1 + n2;

n1 = n2;

n2 = current\_no;

}

cout << current\_no << ' ';

}

return 0;

}

**Task 5:**

#include<iostream>

using namespace std;

int main()

{

int num, rem, sq, sum=0;

cout<<"Enter a Number: ";

cin>>num;

while(num>0)

{

rem = num%10;

if(rem==0)

sq = 1;

else

sq = rem\*rem;

sum = sum + sq;

num = num/10;

}

cout<<"\nSum of squares of all digits = "<<sum;

cout<<endl;

return 0;

}

**Task 6:**

#include<iostream>

using namespace std;

int main()

{

int num, rem, sq, sum=2;

cout<<"Enter a Number: ";

cin>>num;

for(i ; i < num; i++)

{

sum = sum + (i \* i)/i

}

cout << sum;

return 0;

}

**Task 7:**

#include <iostream>

using namespace std;

int main() {

int no = 0, sum = 0;

do {

if (no % 3 != 0) {

sum += no \* no;

}

cout << "Enter a number: ";

cin >> no;

cout << endl;

} while (no >= 0);

cout << "\n\nThe Sum is: " << sum;

return 0;

}

**Homework Questions:**

1. What will be the output of the following programs?

|  |  |
| --- | --- |
| (a) void main()  {  int i=0;  for(;i;)  cout"\nHere is some mail for you";  } | **No Output** |
| (b) void main()  {  int i=0;  do  { cout<<i--;  }while(i>0);  cout<<i;  } | **0-1** |
| (c) void main()  {  int i=1,j=1;  while(1)  {  if(i>5)  break;  else  j+=i;  cout<<j;  i+=j;  }  } | **25** |
| (d) void main()  {  int i=0, x=0;  for ( i=1; i<5; i++)  {  if(i%2==1)  X+=I;  else  x--;  cout<<x;  continue;  }  cout<<x;  } | **10322** |

1. Rewrite the following code segment using for.

|  |  |
| --- | --- |
| x = 100;  while ( x < 4000)  { Count ++ ;  Add = Count \* x;  x += 150;  } | for (int x = 100; x < 4000; x+=150) {  Count++;  Add = Count \* x;    } |
| cycle\_number = 1;  while ( cycle\_number < 100)  {  cout<<"\ncurrent cycle number:"<<cycle\_number;  cycle\_number \*= 2;  } | for (int cycle\_number = 1; cycle\_number < 100; cycle\_number \*= 2) {  cout << "\ncurrent cycle number:" << cycle\_number;    } |