**Report of Assignment # 1:-**

**Group Members:-**

1. Muhammad Jawwad Uddin Khan (59499)
2. Syed Hamza Ali (59035)
3. Usman Tariq ()
4. Arqum Usmani(59252)

**Q.3:-**

**Clause Type and Execution Time Relationship:-**

|  |  |  |  |
| --- | --- | --- | --- |
| **Array Size** | **Clause** | **Chunk Size** | **Time**  **In Secs** |
| 1024 | Static | 100 | 10 |
| 1024 | Dynamic | 100 | 9 |
| 1024 | Guided | 100 | 9 |

**Conclusion:-**

Execute threads with static clause take less time in given scenario than dynamic and guided causes.

**Array Size and Execution Time Relationship:-**

|  |  |  |  |
| --- | --- | --- | --- |
| **Array Size** | **Clause** | **Chunk Size** | **Time** |
| 900 | Static | 100 | 3 sec |
| 1000 | Static | 100 | 5 sec |
| 1100 | Static | 100 | 7 sec |
| 1200 | Static | 100 | 8 sec |

**Conclusion:-**

Execution time of program with same thread type and chunk size is directly proportional to the size of array.

**Q.1:-**

Code of C++ is done by Arqum Usmani()

//initializing array to check the repeatation of numbers

int foo2[20];

//method to check the repeatation of numbers and add in array in case of new number

void check(int index) {

for (size\_t i = 0; i < 20; i++)

{

if (foo2[i] == 0)

{

foo2[i] = index;

break;

}

else if (foo2[i] == index)

{

break;

}

}

}

int main()

{

//loop for taking 20 numbers as input

for (int a = 0; a < 20; a = a + 1) {

int i;

cout << a << " >> Please enter an integer value: ";

cout << "\n\r";

cin >> i;

//check if number is less than 100 and greater than 10 or not

if (i >= 10 && i <= 100)

{

check(i);

}

else

{

cout << "Incorrect range: ";

cout << "\n\r";

a = a - 1;

}

}

//printing final numbers

for (size\_t i = 0; i < 20; i++)

{

cout << foo2[i] << ", ";

}

return 0;

}

Code of Python is done by Syed Hamza Ali(59035)

from array import array

arr = array('i',[])

for i in range(20):

x = int(input('Enter number for index {} :'.format(i)))

while x < 10 or x > 100:

x = int(input('Enter number for index {} :'.format(i)))

if x in arr: pass else: print(x) arr.append(x)

**Q.2:-**

Part A and C is done by Usman Tariq() and Part B is done by Syed Hamza Ali(59035)

**Part A:-**

**Array Size and Execution Time Relationship:-**

|  |  |
| --- | --- |
| **Array Size** | **Time in seconds** |
| 1100 | 15 |
| 1024 | 24 |
| 900 | 8 |
| 800 | 5 |

**Part B:-**

**Array Size and Execution Time Relationship:-**

|  |  |
| --- | --- |
| **Array Size** | **Time in seconds** |
| 1100 | 13 |
| 1000 | 9 |
| 900 | 7 |
| 800 | 3 |

**Conclusion:-**

Execute different tasks like add,sub and mul in different methods decrease the execution time of the program as compared to execute without separate processes.

**Part C:-**

**Array Size and Execution Time Relationship:-**

|  |  |
| --- | --- |
| **Array Size** | **Time in seconds** |
| 1100 | 11 |
| 1000 | 8 |
| 900 | 7 |
| 800 | 3 |

**Conclusion:-**

Execute different tasks like add,sub and mul in different threads decrease the execution time of the program as compared to execute without threads