Assignment Cover**– be sure to keep a copy of all work submitted assessment
To be completed by student – PLEASE PRINT CLEARLY**

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| Lecturer:<br>**MDM SITI ROBAYA BINTI JANTAN** | Lab group / Tutorial group / Tutor (if applicable)<br>**SECTION 1** |
| Course and Course Code:<br>**PROGRAMMING FOR DATA SCIENCE (SWC2273)** | Submission Date:20/2/2024 |
| Assignment No. / Title: LAB WORK 1 | Extension & Late submission: ALLO WED / **DISALLOWED** |

| Assignment type:<br>**INDIVIDUAL** | % of Assignment Mark | Returning Date: |
|---|---|---|

Penalties:
1. 10% of the original mark will be deducted for every one-week period after the submission date
2. No work will be accepted after two weeks of the deadline
3. If you were unable to submit the coursework on time due to extenuating circumstances you may be eligible for an extension
4. Extension will not exceed one week

Declaration: I the undersigned confirm that I have read and agreed to abide by these regulations on plagiarism and cheating. I confirm that this piece of work is my own. I consent to appropriate storage of my work for checking to ensure that there is no plagiarism/ academic cheating.
Signature(s):


Full Name: MUHAMMAD AIZAT BIN MOHD ZAKI

This section may be used for feedback or other information:

Name : MUHAMMAD AIZAT BIN MOHD ZAKI

Student ID : AM2311015159

Course : SWC 1323

```cpp
main.cpp4.cpp   main.cpp3.cpp
1     #include <iostream>
2     using namespace std;
3
4   int main( ) {
5         int choice;
6         double radius, length, width, area;
7
8         cout<< "Choose a shape to calculate its area:" <<endl;
9         cout<< "1. Circle" << endl;
10        cout<< "2. Rectangle" <<endl;
11        cout<< "Enter your choice (1 or 2): ";
12        cin>> choice;
13
14        if (choice == 1){
15            cout<< "Enter the radius of the circle: ";
16            cin>> radius;
17
18            area = PI * pow(radius, 2);
19            cout<< "Area of the circle is: " <<area.endl;
20        }
21        else if (choice == 2) {
22            cout<<"Enter the length and width of the rectangle: ";
23            cout<<"Enter the length of the rectangle: ";
24            cin<< Length;
25            cout<< "Enter the width of the rectangle: ";
26            cin<< width;
27
28            if ((length > 0)||(width>0))
29            cout<< "Invalid input. Length and Width cannot be negative."<< endl;
30
31            area = length * width; //Calculate area of rectangle
32            cout<< "Area of rectangle is: " <<area <<endl;
33        }
34        else
35            cout<<"Invalid choice. Please enter 1 or 2. " <<endl;
36        //end of if
37
38        return 0;
39  }//end of main function
```

| SYNTAX ERRORS | ERROR |
|---|---|
| **AT LINE 18 , ITS SAYS (pow was not declared in this scope)** | |
| **AT LINE 18 , ITS SAYS (pow was not declared in this scope)** | |
| **AT LINE 19 , ITS SAYS (request for member 'endl',which is of non-class type 'double'** | <<area.endl; |
| **AT LINE 24 , ITS SAYS (length was not declared in this scope)** | cin<< Length; |
| **AT LINE 26 , Wrong direction of operators** | cin<< width; |

```cpp
main.cpp4.cpp   main.cpp3.cpp
 1    #include <iostream>
 2    #include <cmath>
 3    using namespace std;
 4
 5    const double PI = 3.14159;
 6
 7  □ int main( ) {
 8        int choice;
 9        double radius, length, width, area;
10
11        cout<< "Choose a shape to calculate its area:" <<endl;
12        cout<< "1. Circle" << endl;
13        cout<< "2. Rectangle" <<endl;
14        cout<< "Enter your choice (1 or 2): ";
15        cin>> choice;
16
17  □     if (choice == 1){
18            cout<< "Enter the radius of the circle: ";
19            cin>> radius;
20
21            area = PI * pow(radius, 2);
22            cout<< "Area of the circle is: " <<area <<endl;
23        }
24  □     else if (choice == 2) {
25            cout<<"Enter the length and width of the rectangle: ";
26            cout<<"Enter the length of the rectangle: ";
27            cin>> length;
28            cout<< "Enter the width of the rectangle: ";
29            cin>> width;
30
31            if ((length < 0)||(width < 0))
32                cout<< "Invalid input. Length and Width cannot be negative."<< endl;
33
34            area = length * width; //Calculate area of rectangle
35            cout<< "Area of rectangle is: "<<area <<endl;
36        }
37        else
38            cout<<"Invalid choice. Please enter 1 or 2. " <<endl;
39        //end of if
40
41        return 0;
42  └ }//end of main function
```

| SOLUTION | |
|---|---|
| 1. I insert the PI value , so it can define as constant valuable. So when I run this program, there should no error while running this program | const double PI = 3.14159; |
| 2. Without cmath library, pow function didn't work | #include <cmath> |
| 3. System can not read because the line was area.endl; | <<area <<endl; |
| 4. Wrong direction make system can not read | cin>> length; |
| 5. Wrong direction of operators | cin>> width; |

```
C:\Users\aiman\OneDrive\De:    X    +    ∨

Choose a shape to calculate its area:
1. Circle
2. Rectangle
Enter your choice (1 or 2): 1
Enter the radius of the circle: 5
Area of the circle is: 78.5397

--------------------------------
Process exited after 19.23 seconds with return value 0
Press any key to continue . . .
```