Subject : **Programming Fundamentals**

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Program Bs(SE)   **Date: 25/8/2020**

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Q1: Part A Answer:
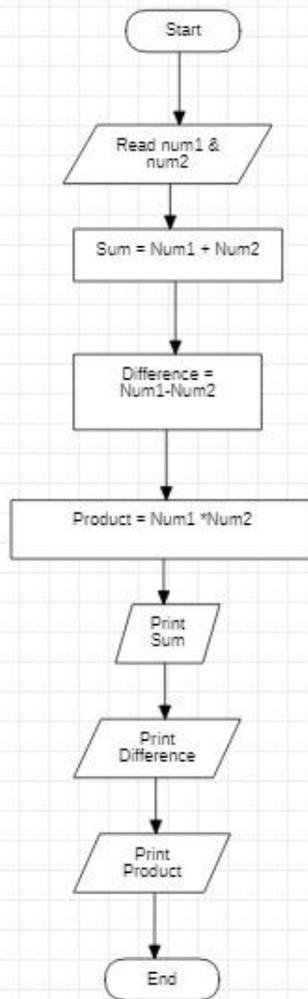
Flow Chart

Q 1 Part B Answer:
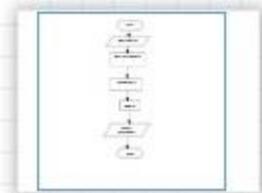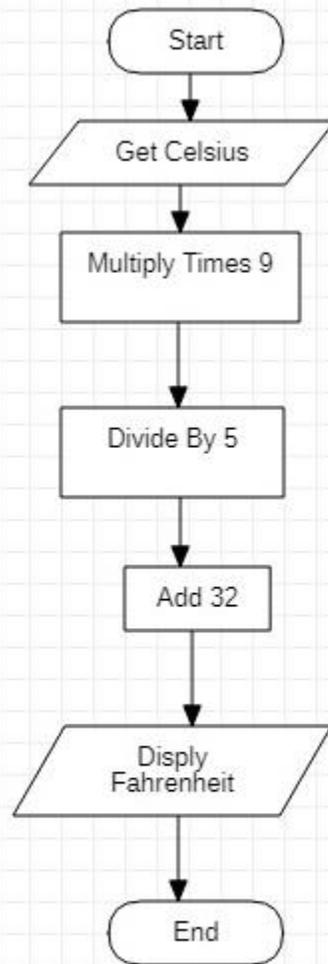
Flow Chart : Q1 part B

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Q2 part A Answer:
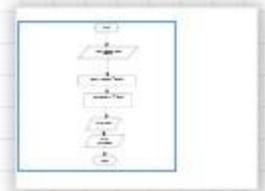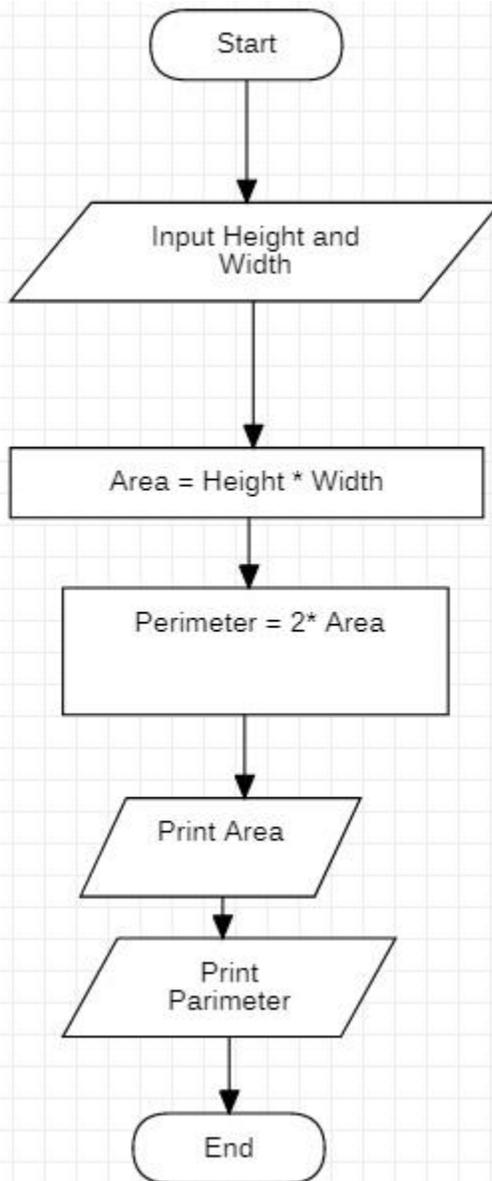
Finding and perimeter area Flow Chart

FindingArea.cpp

```cpp
1   #include <iostream>
2   using namespace std;
3
4       int main()
5       {
6           int width, lngth, area, peri;
7           cout << "\n\n Find the Area and Perimeter of a Rectangle :\n";
8           cout << "-------------------------------------------------\n";
9           cout<<" Please put leangth: ";
10          cin>>lngth;
11          cout<<" please put width ";
12      |   cin>>width;
13          area=(lngth*width);
14          peri=2*(lngth+width);
15          cout<<" The area of the rectangle is : "<< area << endl;
16          cout<<" The perimeter of the rectangle is : "<< peri << endl;
17          cout << endl;
18          return 0;
19      }
```
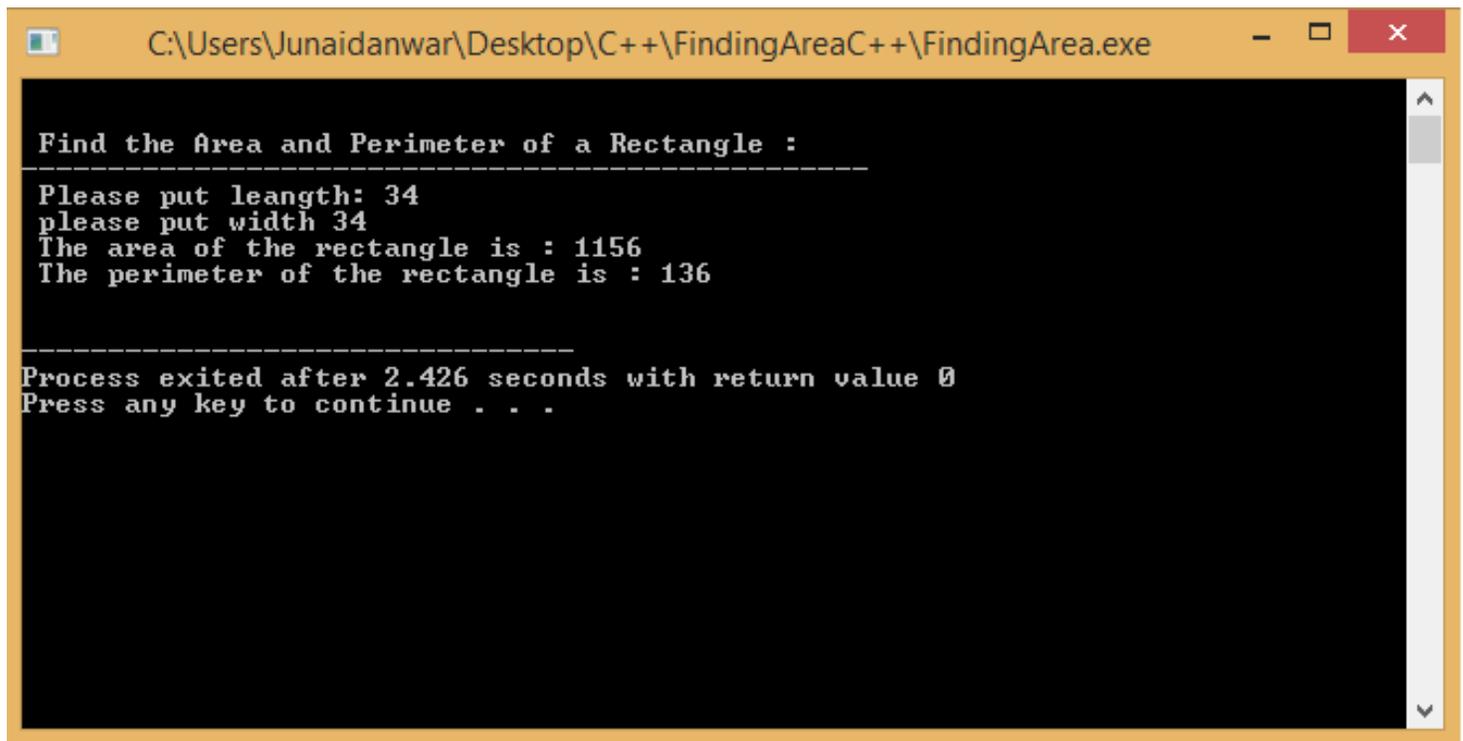
C:\Users\Junaidanwar\Desktop\C++\FindingAreaC++\FindingArea.exe

```
 Find the Area and Perimeter of a Rectangle :
-------------------------------------------------
 Please put leangth: 34
 please put width 34
 The area of the rectangle is : 1156
 The perimeter of the rectangle is : 136


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Process exited after 2.426 seconds with return value 0
Press any key to continue . . .
```

Q2 Part B Answer;
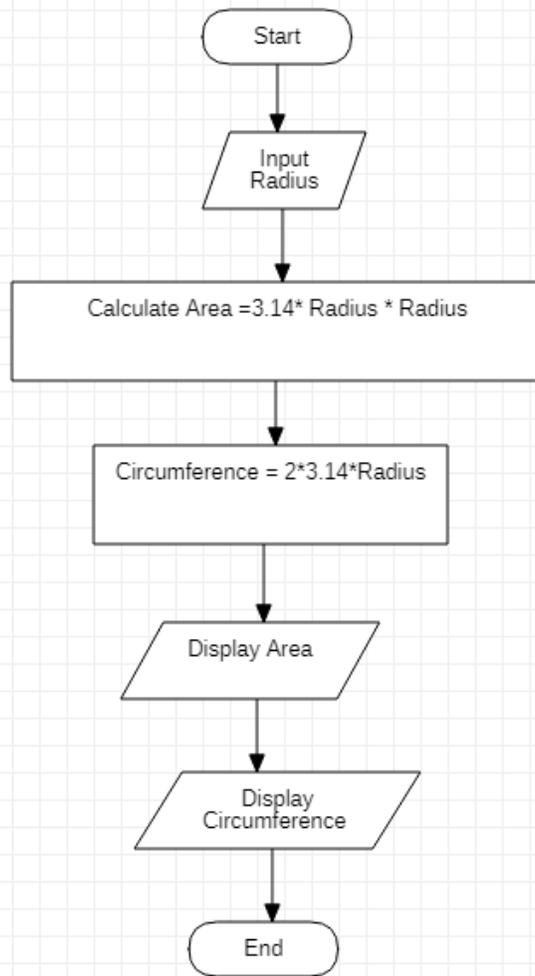
Flow Chart Finding radius And Circumference.

```cpp
1    #include <iostream>
2    #define PI 3.14159
3    using namespace std;
4
5        int main()
6      {
7            float radius, area, Circumference ;
8            cout << "\n\n Find the area and circumference of any circle :\n";
9
10           cout<<" Input the radius(1/2 of diameter) of a circle : ";
11           cin>>radius;
12
13
14    area = PI*(radius*radius);
15    Circumference  = 2*PI*radius;
16           cout<<" The area of the circle is : "<< area << endl;
17           cout<<" The circumference of the circle is : "<< Circumference  << endl;
18
19           cout << endl;
20           return 0;
21      }
```
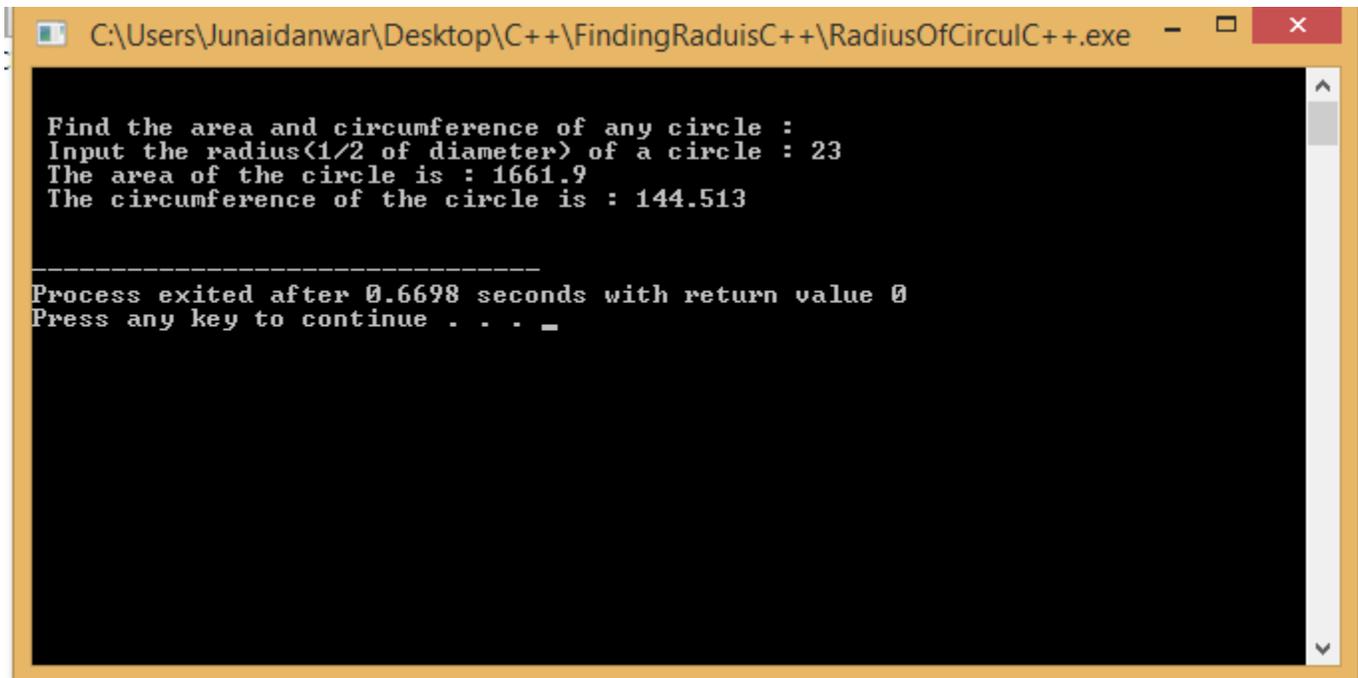
Finding Radius and Circumference Coding+ result

```
C:\Users\Junaidanwar\Desktop\C++\FindingRaduisC++\RadiusOfCirculC++.exe


 Find the area and circumference of any circle :
 Input the radius(1/2 of diameter) of a circle : 23
 The area of the circle is : 1661.9
 The circumference of the circle is : 144.513


------------------------------------
Process exited after 0.6698 seconds with return value 0
Press any key to continue . . . _
```

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Q 3 part A: Discuss different types of programming languages.

Answer: The following are Different type of programming languages;

(1) Object-oriented Programming Language : This programming language views the world as a group of objects that have internal data and external accessing parts of that data. The aim this programming language is to think about the fault by separating it into a collection of objects that offer services which can be used to solve a specific problem. One of the main principle of object oriented programming language is encapsulation that everything an object will need must be inside of the object.

(2) Scripting Programming Language:

A high-level programming language that is interpreted by another program at runtime rather than compiled by the computer's processor as other programming languages (such as C and C++) are. Scripting languages.

(3)Logic Programming Language: These types of languages let programmers make declarative statements and then allow the machine to reason about the consequences of those statements. In a sense, this language doesn't tell the computer how to do something, but employing restrictions on what it must consider doing.

(4)Functional Programming Language : Functional programming language typically uses stored data, frequently avoiding loops in favor of recursive functions.The functional programing's primary focus is on the return values of functions.

(5)Procedural Programming Language: The procedural programming language is used to execute a sequence of statements which lead to a result. Typically, this type of programming language uses multiple

variables, heavy loops and other elements, which separates them from functional programming languages.

Q3 part B : How many translators are there to translate higher level language to machine language? Discuss.

Answer : there are three types of translate that can translate high level language to machine language. the translaters are given below;

(1)Assembler:

it is the language translator designed to translate assembly language program (source codes) into machine language program (object codes). The original assembly language program codes are called source code and after translation,the final machine language perform codes are called object codes.

(2)Compilar:

it Is A compiler is a language translator that translates high-level languages program to machine language program. While translating, it checks the syntax (grammar of the source code) and translates it into object code at a single attempt. If any error is found, the compiler produces syntax errors and causes of the errors. The source code file must be syntax error-free for complete compilation process.

(3)Interpreter:

The interpreter is the language translator designed to translate high-level language program into machine language program, one instruction at a time. Unlike the compiler, it translates and executes one statement at a time before moving to another. If any error is encountered, the translation is halted and an error message is displayed.

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