Question 1A screenshot of a computer program

Description automatically generated

Sort the list and find the min and max age, Add the min age and the max age again to the list, Find the median age, Find the average age and Range is calculated by subtracting the minimum age from the maximum age. In this case, the range would be the difference between the highest and lowest ages.

Question 2A white page with black text

Description automatically generated

A close-up of a computer screen

Description automatically generated

Created an empty dictionary called dog Adding name, color, breed, legs, age to the dog dictionary Creating a student dictionary and added rst\_name, last\_name, gender, age, marital status,skills, country, city and address as keys for the dictionary .So the length of the student dictionary was found .

Question 3

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Description automatically generated

We create two tuples, brothers**,** and sisters, each containing the names of your brothers and sisters respectively.

We concatenate these two tuples using the **+** operator and assign the result to the siblings tuple.To find the number of siblings, we use the len**()** function on the siblings tuple.

Finally, we create two variables father**\_**name and mother**\_**name, and then concatenate these with the siblings tuple to create a new tuple familymembers which includes the names of all siblings, father, and mother.

Question 4A screenshot of a computer program

Description automatically generated

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Description automatically generated

To find the length of a set, you use the len() function.To add an element to a set, you use the add() method.To add multiple elements to a set, you use the update() method.

To remove an element from a set, you use the remove() or discard() method. The difference between them is that remove() raises an error if the element is not present, while discard() does not raise an error.The union() method returns a new set containing all the distinct elements from both sets.The intersection() method returns a new set containing the common elements between two sets.The issubset() method checks if all elements of a set are present in another set.The isdisjoint() method checks if two sets have no common elements.The symmetric\_difference() method returns a new set containing elements that are present in either set, but not in both.To delete a set completely, you can use the **del** keyword.

Question 5

A screenshot of a computer

Description automatically generated

We use the math.pi constant for the value of pi.

The formula to calculate the area of a circle is π \* r^2, where r is the radius.

The formula to calculate the circumference of a circle is 2 \* π \* r, where r is the radius.

We take the radius as user input using the input() function, convert it to a float, and then calculate the area using the formula mentioned above.

Question 6A white screen with black text

Description automatically generated

The split() method splits the sentence into words based on whitespace by default.

The set() function creates a set from the list of words, removing any duplicates.

Finally, the len() function is used to find the number of unique words in the set.

Question 7

A screenshot of a computer code

Description automatically generated

we can use the tab escape sequence \t to insert a tab between each word. Each word is separated by a tab character, making the columns align neatly.

Top of Form

Question 8

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Description automatically generated

We can use string formatting to insert variables into a string. In the format method, {} acts as a placeholder for the variables radius and area. The values of these variables are inserted into the string at those positions.

Question 9

A computer screen shot of a program

Description automatically generated

The program first prompts the user to enter the number of students (N).

It then creates two empty lists, weights\_lbs to store weights in pounds and weights\_kgs to store weights in kilograms.

Using a loop, it reads the weights of N students in pounds from the user and appends them to the weights\_lbs list.

Another loop is used to convert each weight from pounds to kilograms and append the converted weights to the weights\_kgs list.

Finally, it prints out the weights of each student in kilograms. The enumerate() function is used to get both the index and value of each weight in the weights\_kgs list, starting from 1 for the student number.