**Assignment -3**

Python Programming

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| --- | --- |
| Assignment Date | 19 September 2022 |
| Student Name | Sureka S |
| Student Roll Number | 19BCS4117 |
| Maximum Marks | 2 Marks |

{

"cells": [

{

"cell\_type": "markdown",

"metadata": {

"id": "fwU2iooz85jt"

},

"source": [

"## Exercises\n",

"\n",

"Answer the questions or complete the tasks outlined in bold below, use the specific method described if applicable."

]

},

{

"cell\_type": "markdown",

"metadata": {

"id": "SzBQQ\_ml85j1"

},

"source": [

"\*\* What is 7 to the power of 4?\*\*"

]

},

{

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"execution\_count": 44,

"metadata": {

"id": "UhvE4PBC85j3",

"outputId": "06b31237-e1b3-449a-cf10-e456ad3a04d4",

"colab": {

"base\_uri": "https://localhost:8080/"

}

},

"outputs": [

{

"output\_type": "execute\_result",

"data": {

"text/plain": [

"2401"

]

},

"metadata": {},

"execution\_count": 44

}

],

"source": [

"#pow(7, 4)\n",

"7 \*\* 4"

]

},

{

"cell\_type": "markdown",

"metadata": {

"id": "ds8G9S8j85j6"

},

"source": [

"\*\* Split this string:\*\*\n",

"\n",

" s = \"Hi there Sam!\"\n",

" \n",

"\*\*into a list. \*\*"

]

},

{

"cell\_type": "code",

"execution\_count": null,

"metadata": {

"collapsed": true,

"id": "GD\_Tls3H85j7"

},

"outputs": [],

"source": [

"s = \"Hi there Sam!\"\n",

"l1 = s.split()"

]

},

{

"cell\_type": "code",

"execution\_count": null,

"metadata": {

"id": "RRGOKoai85j8",

"outputId": "70eb8a75-0c1c-4355-f574-0f544a7d1a50",

"colab": {

"base\_uri": "https://localhost:8080/"

}

},

"outputs": [

{

"output\_type": "stream",

"name": "stdout",

"text": [

"['Hi', 'there', 'Sam!']\n"

]

}

],

"source": [

"print(l1)"

]

},

{

"cell\_type": "markdown",

"metadata": {

"id": "\_bBNOu-785j9"

},

"source": [

"\*\* Given the variables:\*\*\n",

"\n",

" planet = \"Earth\"\n",

" diameter = 12742\n",

"\n",

"\*\* Use .format() to print the following string: \*\*\n",

"\n",

" The diameter of Earth is 12742 kilometers."

]

},

{

"cell\_type": "code",

"execution\_count": null,

"metadata": {

"collapsed": true,

"id": "2TrzmDcS85j-",

"colab": {

"base\_uri": "https://localhost:8080/",

"height": 36

},

"outputId": "0bd62df0-12c8-4ede-b639-695c4fc5a794"

},

"outputs": [

{

"output\_type": "execute\_result",

"data": {

"text/plain": [

"'The diameter of Earth is 12742 kilometers'"

],

"application/vnd.google.colaboratory.intrinsic+json": {

"type": "string"

}

},

"metadata": {},

"execution\_count": 5

}

],

"source": [

"planet = \"Earth\"\n",

"diameter = 12742\n",

"input\_s = \"The diameter of {} is {} kilometers\"\n",

"input\_s.format(planet, diameter)"

]

},

{

"cell\_type": "code",

"execution\_count": null,

"metadata": {

"id": "s\_dQ7\_xc85j\_",

"outputId": "4582877c-db0b-41ae-dc50-a8a49212d623",

"colab": {

"base\_uri": "https://localhost:8080/",

"height": 36

}

},

"outputs": [

{

"output\_type": "execute\_result",

"data": {

"text/plain": [

"'The diameter of Earth is 12742 kilometers'"

],

"application/vnd.google.colaboratory.intrinsic+json": {

"type": "string"

}

},

"metadata": {},

"execution\_count": 7

}

],

"source": [

"input\_s.format(planet, diameter)"

]

},

{

"cell\_type": "markdown",

"metadata": {

"id": "QAKtN7Hh85kB"

},

"source": [

"\*\* Given this nested list, use indexing to grab the word \"hello\" \*\*"

]

},

{

"cell\_type": "code",

"execution\_count": 42,

"metadata": {

"collapsed": true,

"id": "-7dzQDyK85kD"

},

"outputs": [],

"source": [

"lst = [1,2,[3,4],[5,[100,200,['hello']],23,11],1,7]\n"

]

},

{

"cell\_type": "code",

"execution\_count": 43,

"metadata": {

"id": "6m5C0sTW85kE",

"outputId": "43eca2eb-b911-4c64-f39f-10e1929a7a47",

"colab": {

"base\_uri": "https://localhost:8080/"

}

},

"outputs": [

{

"output\_type": "stream",

"name": "stdout",

"text": [

"hello\n"

]

}

],

"source": [

"print(lst[3][1][2][0])"

]

},

{

"cell\_type": "markdown",

"metadata": {

"id": "9Ma7M4a185kF"

},

"source": [

"\*\* Given this nest dictionary grab the word \"hello\". Be prepared, this will be annoying/tricky \*\*"

]

},

{

"cell\_type": "code",

"execution\_count": 4,

"metadata": {

"id": "vrYAxSYN85kG"

},

"outputs": [],

"source": [

"d = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}"

]

},

{

"cell\_type": "code",

"execution\_count": 23,

"metadata": {

"id": "FlILSdm485kH",

"outputId": "63e1d09d-32e1-4845-9aca-1de23b80ad4f",

"colab": {

"base\_uri": "https://localhost:8080/",

"height": 36

}

},

"outputs": [

{

"output\_type": "execute\_result",

"data": {

"text/plain": [

"'hello'"

],

"application/vnd.google.colaboratory.intrinsic+json": {

"type": "string"

}

},

"metadata": {},

"execution\_count": 23

}

],

"source": [

"d['k1'][3]['tricky'][3]['target'][3]"

]

},

{

"cell\_type": "markdown",

"metadata": {

"id": "FInV\_FKB85kI"

},

"source": [

"\*\* What is the main difference between a tuple and a list? \*\*"

]

},

{

"cell\_type": "code",

"execution\_count": null,

"metadata": {

"collapsed": true,

"id": "\_VBWf00q85kJ"

},

"outputs": [],

"source": [

"thisdict = {\n",

" \"brand\": \"Ford\",\n",

" \"model\": \"Mustang\",\n",

" \"year\": 1964\n",

"}"

]

},

{

"cell\_type": "markdown",

"metadata": {

"id": "zP-j0HZj85kK"

},

"source": [

"\*\* Create a function that grabs the email website domain from a string in the form: \*\*\n",

"\n",

" user@domain.com\n",

" \n",

"\*\*So for example, passing \"user@domain.com\" would return: domain.com\*\*"

]

},

{

"cell\_type": "code",

"execution\_count": 39,

"metadata": {

"collapsed": true,

"id": "unvEAwjk85kL"

},

"outputs": [],

"source": [

"def getDomain(email):\n",

" return email[email.index('@') + 1:]"

]

},

{

"cell\_type": "code",

"execution\_count": 40,

"metadata": {

"id": "Gb9dspLC85kL",

"outputId": "9dac19d5-d292-4b99-b730-da5ed57dfa39",

"colab": {

"base\_uri": "https://localhost:8080/",

"height": 36

}

},

"outputs": [

{

"output\_type": "execute\_result",

"data": {

"text/plain": [

"'domain.com'"

],

"application/vnd.google.colaboratory.intrinsic+json": {

"type": "string"

}

},

"metadata": {},

"execution\_count": 40

}

],

"source": [

"getDomain(\"user@domain.com\")"

]

},

{

"cell\_type": "markdown",

"metadata": {

"id": "gYydb-y085kM"

},

"source": [

"\*\* Create a basic function that returns True if the word 'dog' is contained in the input string. Don't worry about edge cases like a punctuation being attached to the word dog, but do account for capitalization. \*\*"

]

},

{

"cell\_type": "code",

"execution\_count": 37,

"metadata": {

"collapsed": true,

"id": "Q4ldLGV785kM"

},

"outputs": [],

"source": [

"#def check(input):\n",

" # if(input.\_\_contains\_\_('dog')):\n",

" # return True\n",

" #else:\n",

" # return False \n",

"#input = \"The dog is the most loveable animal in the world\"\n",

"#check(input)\n",

"def findDog(st):\n",

" return 'dog' in st.lower().split()"

]

},

{

"cell\_type": "code",

"execution\_count": 38,

"metadata": {

"id": "EqH6b7yv85kN",

"outputId": "5d06ad86-d448-4ce3-d144-8e519e0f58ee",

"colab": {

"base\_uri": "https://localhost:8080/"

}

},

"outputs": [

{

"output\_type": "execute\_result",

"data": {

"text/plain": [

"True"

]

},

"metadata": {},

"execution\_count": 38

}

],

"source": [

"findDog('Is there a dog here?')"

]

},

{

"cell\_type": "markdown",

"metadata": {

"id": "AyHQFALC85kO"

},

"source": [

"\*\* Create a function that counts the number of times the word \"dog\" occurs in a string. Again ignore edge cases. \*\*"

]

},

{

"cell\_type": "code",

"execution\_count": 35,

"metadata": {

"id": "6hdc169585kO"

},

"outputs": [],

"source": [

"def countDog(st):\n",

" count = 0\n",

" for word in st.lower().split():\n",

" if word == 'dog':\n",

" count += 1\n",

" return count"

]

},

{

"cell\_type": "code",

"execution\_count": 36,

"metadata": {

"id": "igzsvHb385kO",

"outputId": "06b698f3-4e2d-4597-ccfa-ddf32cdfb796",

"colab": {

"base\_uri": "https://localhost:8080/"

}

},

"outputs": [

{

"output\_type": "execute\_result",

"data": {

"text/plain": [

"2"

]

},

"metadata": {},

"execution\_count": 36

}

],

"source": [

"countDog('This dog runs faster than the other dog')"

]

},

{

"cell\_type": "markdown",

"metadata": {

"id": "3n7jJt4k85kP"

},

"source": [

"### Problem\n",

"\*\*You are driving a little too fast, and a police officer stops you. Write a function\n",

" to return one of 3 possible results: \"No ticket\", \"Small ticket\", or \"Big Ticket\". \n",

" If your speed is 60 or less, the result is \"No Ticket\". If speed is between 61 \n",

" and 80 inclusive, the result is \"Small Ticket\". If speed is 81 or more, the result is \"Big Ticket\". Unless it is your birthday (encoded as a boolean value in the parameters of the function) -- on your birthday, your speed can be 5 higher in all \n",

" cases. \*\*"

]

},

{

"cell\_type": "code",

"execution\_count": 32,

"metadata": {

"collapsed": true,

"id": "nvXMkvWk85kQ"

},

"outputs": [],

"source": [

"def caught\_speeding(speed, is\_birthday):\n",

" \n",

" if is\_birthday:\n",

" speeding = speed - 5\n",

" else:\n",

" speeding = speed\n",

" \n",

" if speeding > 80:\n",

" return 'Big Ticket'\n",

" elif speeding > 60:\n",

" return 'Small Ticket'\n",

" else:\n",

" return 'No Ticket'"

]

},

{

"cell\_type": "code",

"execution\_count": 33,

"metadata": {

"id": "BU\_UZcyk85kS",

"outputId": "9ac79e12-74e2-49b7-8215-ecf6d341ac13",

"colab": {

"base\_uri": "https://localhost:8080/",

"height": 36

}

},

"outputs": [

{

"output\_type": "execute\_result",

"data": {

"text/plain": [

"'Big Ticket'"

],

"application/vnd.google.colaboratory.intrinsic+json": {

"type": "string"

}

},

"metadata": {},

"execution\_count": 33

}

],

"source": [

"caught\_speeding(81, False)"

]

},

{

"cell\_type": "code",

"execution\_count": 34,

"metadata": {

"id": "p1AGJ7DM85kR",

"outputId": "10ad5ad9-c431-48d8-a2a1-807dd4055b24",

"colab": {

"base\_uri": "https://localhost:8080/",

"height": 36

}

},

"outputs": [

{

"output\_type": "execute\_result",

"data": {

"text/plain": [

"'Small Ticket'"

],

"application/vnd.google.colaboratory.intrinsic+json": {

"type": "string"

}

},

"metadata": {},

"execution\_count": 34

}

],

"source": [

"caught\_speeding(81, True)"

]

},

{

"cell\_type": "markdown",

"source": [

"Create an employee list with basic salary values(at least 5 values for 5 employees) and using a for loop retreive each employee salary and calculate total salary expenditure. "

],

"metadata": {

"id": "Tie4rC7\_kAOC"

}

},

{

"cell\_type": "code",

"source": [

"emp\_list = [120000, 150000, 90000, 45000, 28000]\n",

"salary\_expenditure = 0\n",

"for i in emp\_list:\n",

" salary\_expenditure += i\n",

"print(salary\_expenditure)"

],

"metadata": {

"id": "R5-CdXSKjacN",

"colab": {

"base\_uri": "https://localhost:8080/"

},

"outputId": "3a8063ca-cdff-467d-8cc0-642e3e923111"

},

"execution\_count": null,

"outputs": [

{

"output\_type": "stream",

"name": "stdout",

"text": [

"433000\n"

]

}

]

},

{

"cell\_type": "markdown",

"source": [

"Create two dictionaries in Python:\n",

"\n",

"First one to contain fields as Empid, Empname, Basicpay\n",

"\n",

"Second dictionary to contain fields as DeptName, DeptId.\n",

"\n",

"Combine both dictionaries. "

],

"metadata": {

"id": "-L1aiFqRkF5s"

}

},

{

"cell\_type": "code",

"source": [

"dict1 = { \"Empid\" : 1,\n",

" \"Empname\" : \"abc\",\n",

" \"Basicpay\" : 1200\n",

" }\n",

"dict2 = { \"DeptName\" : \"CSE\",\n",

" \"DeptId\" : 1,\n",

" } \n",

"print({\*\*dict1, \*\*dict2})"

],

"metadata": {

"id": "8ugVoEe0kOsk",

"colab": {

"base\_uri": "https://localhost:8080/"

},

"outputId": "f88963ed-526f-4202-9d01-1caa14927123"

},

"execution\_count": null,

"outputs": [

{

"output\_type": "stream",

"name": "stdout",

"text": [

"{'Empid': 1, 'Empname': 'abc', 'Basicpay': 1200, 'DeptName': 'CSE', 'DeptId': 1}\n"

]

}

]

}

],

"metadata": {

"colab": {

"provenance": [],

"collapsed\_sections": []

},

"kernelspec": {

"display\_name": "Python 3",

"language": "python",

"name": "python3"

},

"language\_info": {

"codemirror\_mode": {

"name": "ipython",

"version": 3

},

"file\_extension": ".py",

"mimetype": "text/x-python",

"name": "python",

"nbconvert\_exporter": "python",

"pygments\_lexer": "ipython3",

"version": "3.8.5"

}

},

"nbformat": 4,

"nbformat\_minor": 0

}