Assignment -3
Python Programming

Assignment Date	19 September 2022
Student Name	Manju S
Student Roll Number	19BCS4069
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",
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    "id": "SzBQQ_ml85j1"
   },
   "source": [
    "** What is 7 to the power of 4?**"
   ]
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  {
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   "metadata": {
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    "outputId": "06b31237-e1b3-449a-cf10-e456ad3a04d4",
    "colab": {
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    }
   },
   "outputs": [
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     "output_type": "execute_result",
     "data": {
      "text/plain": [
```

```json
      "2401"
     ]
    },
    "metadata": {},
    "execution_count": 44
   }
  ],
  "source": [
   "#pow(7, 4)\n",
   "7 ** 4"
  ]
 },
 {
  "cell_type": "markdown",
  "metadata": {
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  },
  "source": [
   "** Split this string:**\n",
   "\n",
   "    s = \"Hi there Sam!\"\n",
   "    \n",
   "**into a list. **"
  ]
 },
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  "metadata": {
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   "id": "GD_Tls3H85j7"
  },
  "outputs": [],
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   "s = \"Hi there Sam!\"\n",
   "l1 = s.split()"
  ]
 },
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  "execution_count": null,
  "metadata": {
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   "colab": {
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```

```json
    }
   },
   "outputs": [
    {
     "output_type": "stream",
     "name": "stdout",
     "text": [
      "['Hi', 'there', 'Sam!']\n"
     ]
    }
   ],
   "source": [
    "print(l1)"
   ]
  },
  {
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   "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."
   ]
  },
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   "cell_type": "code",
   "execution_count": null,
   "metadata": {
    "collapsed": true,
    "id": "2TrzmDcS85j-",
    "colab": {
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     "height": 36
    },
    "outputId": "0bd62df0-12c8-4ede-b639-695c4fc5a794"
   },
   "outputs": [
    {
     "output_type": "execute_result",
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```json
      "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",
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      "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"
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  "source": [
   "** Given this nested list, use indexing to grab the word \"hello\" **"
  ]
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  "execution_count": 42,
  "metadata": {
   "collapsed": true,
   "id": "-7dzQDyK85kD"
  },
  "outputs": [],
  "source": [
   "lst = [1,2,[3,4],[5,[100,200,['hello']],23,11],1,7]\n"
  ]
 },
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  "metadata": {
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   "outputId": "43eca2eb-b911-4c64-f39f-10e1929a7a47",
   "colab": {
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   }
  },
  "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": "FIILSdm485kH",
      "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**"
    ]
   },
   {
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```

```
    "execution_count": 39,
    "metadata": {
     "collapsed": true,
     "id": "unvEAwjk85kL"
    },
    "outputs": [],
    "source": [
     "def getDomain(email):\n",
     "  return email[email.index('@') + 1:]"
    ]
   },
   {
    "cell_type": "code",
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    "metadata": {
     "id": "Gb9dspLC85kL",
     "outputId": "9dac19d5-d292-4b99-b730-da5ed57dfa39",
     "colab": {
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      "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",
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      "metadata": {
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       "outputId": "5d06ad86-d448-4ce3-d144-8e519e0f58ee",
       "colab": {
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       }
      },
      "outputs": [
       {
        "output_type": "execute_result",
        "data": {
         "text/plain": [
          "True"
         ]
        },
        "metadata": {},
        "execution_count": 38

```json
      }
    ],
    "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. **"
    ]
   },
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    "execution_count": 35,
    "metadata": {
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    },
    "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": {
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     "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,
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  "outputId": "10ad5ad9-c431-48d8-a2a1-807dd4055b24",
  "colab": {
   "base_uri": "https://localhost:8080/",
   "height": 36
  }
 }
```

```json
    },
    "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,

```json
    "outputs": [
     {
       "output_type": "stream",
       "name": "stdout",
       "text": [
         "{'Empid': 1, 'Empname': 'abc', 'Basicpay': 1200, 'DeptName': 'CSE', 'DeptId': 1}\n"
       ]
     }
    ]
   }
 ],
 "metadata": {
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   "language": "python",
   "name": "python3"
  },
  "language_info": {
   "codemirror_mode": {
     "name": "ipython",
     "version": 3
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   "mimetype": "text/x-python",
   "name": "python",
   "nbconvert_exporter": "python",
   "pygments_lexer": "ipython3",
   "version": "3.8.5"
  }
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