

**Assignment -3**  
Python Programming

Assignment Date	29 September 2022
Student Name	Muthukumar T
Student Roll Number	19P118
Maximum Marks	2 Marks

```
{
  "cells": [
    {
      "cell_type": "markdown",
      "metadata": {
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      },
      "source": [
        "## Exercises\n",
        "\n",
        "Answer the questions or complete the tasks outlined in bold below, use the specific method\n",
        "described if applicable."
      ]
    },
    {
      "cell_type": "markdown",
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      },
      "source": [
        "*** What is 7 to the power of 4?***"
      ]
    },
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        "colab": {
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        }
      },
      "outputs": [
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      "2401"
    ]
  },
  "metadata": {},
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"source": [
  "#pow(7, 4)\n",
  "7 ** 4"
]
},
{
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  "metadata": {
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  },
  "source": [
    "*** Split this string:**\n",
    "\n",
    " s = \"Hi there Sam!\"\n",
    " \n",
    "***into a list. ***"
  ]
},
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  "execution_count": null,
  "metadata": {
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    "id": "GD_TIs3H85j7"
  },
  "outputs": [],
  "source": [
    "s = \"Hi there Sam!\"\n",
    "l1 = s.split()"
  ]
}

```

```

},
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  "execution_count": null,
  "metadata": {
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    }
  },
  "outputs": [
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      "output_type": "stream",
      "name": "stdout",
      "text": [
        "['Hi', 'there', 'Sam!']\n"
      ]
    }
  ],
  "source": [
    "print(l1)"
  ]
},
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  "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."
  ]
},
{

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```

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"metadata": {
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"id": "2TrzmDcS85j-",
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"outputs": [
{
"output_type": "execute_result",
"data": {
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"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)"
]
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"outputId": "4582877c-db0b-41ae-dc50-a8a49212d623",
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"base_uri": "https://localhost:8080/",

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    "height": 36
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},
"outputs": [
  {
    "output_type": "execute_result",
    "data": {
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        "'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\" ***"
  ]
},
{
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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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    ]
  },
  {
    "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": [],

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"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_FKB85kl"
  },
  "source": [
    "*** What is the main difference between a tuple and a list? ***"
  ]
}

```

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},
{
  "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": {
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    "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
    }
  ]
}

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    }
  ],
  "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\".\n",
    Unless it is your birthday (encoded as a boolean value in the parameters of the function) -- on your\n",
    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": {
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    "outputId": "9ac79e12-74e2-49b7-8215-ecf6d341ac13",
    "colab": {
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      "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": {
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      "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 retrieve 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": {
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      "collapsed_sections": []
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    "kernelspec": {
      "display_name": "Python 3",

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    "name": "python3"
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  "language_info": {
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      "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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