PROGRAMMING FOR DATA SCIENCE (WITH PYTHON)

Lab 1

1. Hoàn thành đoạn chương trình sau

```
# Several variables to experiment with
savings = 100
factor = 1.1
desc = "compound interest"
# Assign product of factor and savings to year1
year1 =savings*factor
# Print the type of year1


# Assign sum of desc and desc to doubledesc


# Print out doubledesc
```

2. Hoàn thành đoạn chương trình sau

```
# Definition of savings and result
savings = 100
result = 100 * 1.10 ** 7
# Fix the printout
print("I started with $" + savings + " and now have $" + result + ". Awesome!)
# Definition of pi_string
pi_string = "3.1415926"
# Convert pi_string into float: pi_float
```

3. Hoàn thành đoạn chương trình sau

```
# area variables (in square meters)
hall = 11.25
kit = 18.0
liv = 20.0
bed = 10.75
bath = 9.50
# house information as list of lists
house = [["hallway", hall], ["kitchen", kit],  ["living room", liv]]
# Print out house


# Print out the type of house
```

4. Hoàn thành đoạn chương trình sau

```
# Create the areas list
areas = ["hallway", 11.25, "kitchen", 18.0, "living room", 20.0, "bedroom",
10.75, "bathroom", 9.50]
# Print out second element from areas


# Print out last element from areas


# Print out the area of the living room
```

5. Hoàn thành đoạn chương trình sau

```
# Create the areas list
```

areas = ["hallway", 11.25, "kitchen", 18.0, "living room", 20.0, "bedroom", 10.75, "bathroom", 9.50]

Sum of kitchen and bedroom area: eat_sleep_area

Print the variable eat_sleep_area

6. Hoàn thành đoạn chương trình sau

```
# Create the areas list
areas = ["hallway", 11.25, "kitchen", 18.0, "living room", 20.0, "bedroom", 10.75, "bathroom", 9.50]
# Use slicing to create downstairs , that contains the first 6 elements of areas

# Use slicing to create upstairs,  that contains the last 4 elements of areas

# Print out downstairs and upstairs
```

7. Hoàn thành đoạn chương trình sau

```
# Create the areas list
areas = ["hallway", 11.25, "kitchen", 18.0, "living room", 20.0, "bedroom", 10.75, "bathroom", 9.50]
# Correct the bathroom area; it's 10.50 square meters instead of 9.50

# Change "living room" to "chill zone"
```

8. Hoàn thành đoạn chương trình sau

```
# Create the areas list and make some changes
```

```
areas = ["hallway", 11.25, "kitchen", 18.0, "chill zone", 20.0,
        "bedroom", 10.75, "bathroom", 10.50]
# Add he list ["poolhouse", 24.5] to areas, new list is areas_1

# Add the string "garage" and float 15.45 to areas_1, new list is areas_2
```

9. Hoàn thành đoạn chương trình sau

```
# Create list areas
areas = [11.25, 18.0, 20.0, 10.75, 9.50]
# Create areas_copy

# Change areas_copy

# Print areas
```

10. Hoàn thành đoạn chương trình sau

```
# Create list areas
colos = [‘red’, ‘blue’, ‘green’, ‘black’, ‘white’]
# Reverse
rcolor=
# sort
```