**Learning Activity 5 – Control Structures and Functions**

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| Activity | * What is the output y in the following:

z=5if(z<0) y=z\*3 else y=z\*5* What is the output n in the following:

z='i'if (z=='a') n=1 elseif (z=='e') n=2 elseif (z=='i') n=3 elseif (z=='o') n=4 else n=5* Save the script as **Activity 2\_6\_2**
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| Activity | * Using a while loop starting with x = 0, display all the numbers up to 50 but skipping numbers 10, 25 and 35.
* Using a while loop, create a multiplication table of 4 with the first value being 4 and the last one being 100.
* Use a while loop to investigate the value of n such that product of

1 x 2 x 3 x 4 x … x njust crosses 1 million. * Save the updated script as **Activity 2\_6\_3\_1**
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| Activity | * Using a repeat loop, print all the numbers ranging from 1 to 50.
* Using a repeat loop, print all the even numbers in the sequence 1 to 50.,
* *Write a repeat loop that iterates over the numbers 1 to 10 and prints the cube of each number.*
* Save the updated script as **Activity 2\_6\_3\_2**
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| Activity | * *Write a for() loop that prints all the letters in a vector containing the following letters "q", "w", "e", "r", "z" and "c".*
* *Write a for() loop that prints the first five numbers of this vector: 7, 4, 3, 8, 9, 25, 10, 22 and 37*
* *Use a for() loop to re-implement the example in section 2.6.3.2 and consequently displays the same output.*
* Save the updated script as **Activity 2\_6\_3\_3**
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| Activity | * *Create a function that returns the difference between two numbers. The function should subtract the smaller number from the bigger one.*
* *Create a function that given an alpha numeric vector, it keeps only the numbers. For example, if the input is a vector w="b", "d", "8", "5", "q" , the function will return w= “8”, “5”.*
* *Create a function returns the grade of a student given his mark. The grading scheme is given in the table below:*

|  |  |
| --- | --- |
| **Mark**  | **Award**  |
| Mark >= 80  | A |
| Mark >= 60 & < 80  | B  |
| Mark >= 40 & < 60  | C  |
| Mark < 40  | D  |

* Write appropriate calls to test the above functions.
* Save your script as **Activity 2\_7**
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